DOCUMENT RESUME

ED 319 285 HE 023 406

AUTHOR	Mortenson, Thomas G.
TITLE	The Impact of Increased Loan Utilization among Low Family Income Students.
INSTITUTION	American Coll. Testing Program, Iowa City, Iowa.
REPORT NO	ACT-90-1
PUB DATE	Feb 90
NOTE	75p.
AVAILABLE FROM	ACT Publications, P.O. Box 168, Iowa City, IA 52243.
PUB TYPE	Reports - Research/Technical (143) -- Statistical Data (110)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Educational Economics; Enrollment Trends; *Grants; Higher Education; High Risk Students; Investment; *Low Income Groups; Student Attitudes; *Student Financial Aid; *Student Loan Programs

ABSTRACT

This study used economic investment theory and attitudinal survey data to examine the relationship between the decline in low-income participation in higher education and the substitution of loans for grants in federal student financial aid programs. Loans are seen to substantially decrease the net benefits of college attendance to low-income students because of these students' greater risk of academic failure and the addition of fees and interest charges to existing cost barriers. Survey data found that far fewer persons from family incomes of less than $20,000 felt the lifetime return on a college education was greater than its cost. Additionally, low family income is related to less willingness to assume debt for educational or other expenses and to reluctance to take financial risks for investment purposes. Examination of behavioral data revealed that college enrollment rates of students from poor family backgrounds increased when net college attendance costs were decreased due to availability of grants, that students from poorer backgrounds were likely to select less expensive higher education options, and that the poorest students incurred the greatest growth in indebtedness. It is concluded that only grants achieve desired enrollment gains by low-income students. Appendixes detail the data. Contains 17 references. Twenty-eight figures are included and 5 tables are appended. (DB)

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ED319285

ACT Student Financial Aid
Research Report Series 90-1

The Impact of Increased Loan Utilization Among Low Family Income Students

Thomas G. Mortenson

February 1990

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THE IMPACT OF INCREASED LOAN UTILIZATION AMONG LOW FAMILY INCOME STUDENTS

Thomas G. Mortenson

SUMMARY OF FINDINGS AND CONCLUSIONS

This study set out to examine the relationship between the decline in low income participation in higher education, and the substitution of loans for grants in federal student financial aid programs. The study explored this relationship from two perspectives, one based on economic investment theory and the other based on attitudinal survey data. The findings from both theoretical and attitudinal approaches lead to a common conclusion: loans are not equivalent substitutes for grants for all aid applicants, especially low income aid applicants. When loans are substituted for grants for low income aid applicants, the enrollment problems that were solved by grants are recreated by loans.

The enrollment objective of student financial aid is to remove financial barriers to higher educational opportunity for those who can demonstrate need for assistance to pay college attendance costs. Between 1966 and the late 1970s, when grant assistance was greatly expanded, the participation of individuals from lower income groups also greatly increased. Between 1980 and the present, when loans have become the dominant form of federal student financial aid, between 40 and 50 percent of the participation gains made by students from the bottom quartile of the family income distribution between the mid 1960s and the mid 1970s have been lost.

Economic investment theory provides one means for interpreting this enrollment loss for low income students. Loans have characteristics that differ from grants: they add risk and financing costs to the higher educational investment decision, and the addition of these costs reduces the net benefits of college attendance for those who use student loans. The more loans are used to finance college, the greater the reduction in net benefits of college attendance.

The cost characteristics of loans have a disproportionate adverse impact on low income students for two reasons. First, higher education is a far riskier investment decision for low income students because they characteristically demonstrate less promise for academic success, and hence are less likely to earn the higher incomes following graduation that enable them to repay their loan obligations. Family income is very strongly correlated with both success in high school (as measured by high school grades and graduation rates) and performance on the standardized tests used for college admission. Success in high school, measured potential on standardized tests, and success in college are all very highly correlated. Thus, low income students face inherently higher risk of not completing college. When they encounter student loans in their financial aid package, this risk imposes cost-like considerations that reduce the prospect of net benefits of college enrollment for them.

The second unique cost characteristic of student loans is their financing costs. Unlike grant assistance, loan principal must be repaid to the lender, along with insurance and origination fees, plus interest on the unpaid balance. A student who borrowed the maximum Stafford Student Loan (formerly called Guaranteed Student Loan) amount for four years could repay as much as $19,948 in principal, interest, and fees after leaving school. If the student prolonged his studies and borrowed more, he could repay as much as $25,970 after college. Very simply stated, loans not only reinsert cost barriers to higher education that grants eliminated, but loans add to these cost barriers

by adding fees and interest charges to student financial aid. The replacement of grant assistance with loans substantially reduces the net benefits of college for those who use loans to finance attendance costs. And the more loans are used to finance these costs, the greater the reduction in net benefit of college attendance.

We also explored attitudinal survey data in this study to examine the views of people from different income backgrounds towards educational investment questions. In particular, we examined people's attitudes toward higher education as an investment, educational loans, and willingness to assume financial risk in an investment decision. As one might expect, poor people answered these questions differently than people from more comfortable financial backgrounds. These attitudinal differences are especially important to the higher educational investment decision.

People from low family income backgrounds hold considerably different views about the worth of higher education than do people who are financially well off. In the 1989 survey sponsored by the Council for the Advancement and Support of Education, 60 percent of those from family incomes of more than $50,000 per year felt the lifetime return on a college education was worth more than it cost to attend college, compared to 27 percent of those from family incomes of less than $20,000 per year.

People from low family income backgrounds are--and always have been--less willing to borrow money to finance educational expenses than are people from higher family income levels. In the Federal Reserve System surveys of consumer finances conducted in 1957, 1967, 1977 and 1983, adults representing household incomes of less than about $25,000 per year (1983 dollars) were consistently about 80 to 85 percent as likely to think favorably toward borrowing to finance educational expenses as were people with incomes of more than about $34,000 per year. The attitude of the poor toward borrowing is not confined to education. For any purpose, the poor are less likely than the financially better off to be willing to assume debt.

The Federal Reserve System surveys give us a clear indication of where on the income scale favorable attitudes toward educational loans begin to break down. In the 1983 survey, this point was about $20,000. (Inflated to 1989 dollars, the equivalent income break point would be about $24,500.) Above this income level, about 85 to 90 percent of adults have a favorable attitude toward borrowing to finance education. Below $20,000 of income, the proportion of respondents who think borrowing to finance educational expenses is a good idea drops off sharply, to a low of close to 60 percent of those with incomes of $4,000 to $6,000 per year.

People from low income backgrounds are also reluctant to take financial risks for investment purposes. The Federal Reserve System surveys show extraordinarily strong relationships between income and willingness to take financial risks. Below about $7500 in income (1983 dollars), about 30 to 35 percent of heads of families with children said they were willing to take financial risks, compared to nearly 70 percent of those from families with $30,000 to $50,000 in income, and nearly 100 percent of those from families with incomes of more than $200,000 per year. Because loans to finance educational investment involve risk, and higher educational investments are unusually risky for people from low income backgrounds, one cannot conclude that low income people are neutral about borrowing to finance educational expenses.

Finally, this study examined a variety of behavioral data related to higher educational enrollments and student borrowing to finance educational costs. The results of this portion of the study appear to be consistent with the theoretical and attitudinal findings.

First, in terms of higher educational participation, the college enrollment rates of students from poor family income backgrounds increased when net college attendance costs were decreased through the expansion of student aid programs based on grants between the mid 1960s and the late 1970s. Then, during the 1980s, when net college attendance costs were greatly increased by the substitution of loans for grants, between 40 and 50 percent of these enrollment gains were lost.

Second, for those from poverty level family income backgrounds who managed to gain access to higher education, we found changes in their enrollment behavior related to the price of the colleges where they enrolled. Basically, some low income students moved down the price ladder of higher education--from universities and four-year colleges to two-year colleges--to attend college at a more affordable cost.

Third, despite the migration of poor students down the price ladder of higher education, the greatest growth in indebtedness during the last five years has been among the very poorest enrolled students. In the early 1980s, the highest levels of indebtedness were held by students from middle income families. In the late 1980s, the highest debt levels are held by the poorest students enrolled in higher education. During this interval, the greatest growth in indebtedness was among these lowest income borrowers.

Finally, after student loan borrowers leave college, the highest default rates on loan obligations are among the very poorest of those who borrowed to finance educational expenses. The 1985 Pennsylvania study found that default rates ranged from a high of 41.5 percent among borrowers with incomes of less than $6,000, to 3.4 percent among borrowers with incomes greater than $42,000 per year. Similar results have been reported from New Jersey.

From each perspective examined here, loans are not substitutes for grants for low income students. Only grants achieved the enrollment gains made by students from low income families between 1966 and the late 1970s. When loans were substituted for grant aid to low income students, college access dropped, college choice deteriorated, and default rates increased. In every respect examined, low income students suffered from the loss of grant assistance and the attempt to substitute loans for grants. To the extent that the aims of student aid are to enhance higher educational opportunity for those with financial need to pay college attendance costs, loans have been counterproductive for some groups seeking the benefits of higher education in their lives.

TABLE OF CONTENTS

Summary of Findings and Conclusions..... i

Table of Contents.....iv

I. Introduction..... 1
The Problem..... 1
The Federal Shift from Grants to Loans..... 3
Sources and Types of Student Aid by Income Level..... 5
Family financial assistance
Gift assistance
Loan assistance

II. Behavioral Indications.....10
Trends in Higher Educational Participation by Family Income Level.....10
Bottom 10 percent
Next 15 percent
Next 25 percent
Enrollment Redistribution.....12
Freshmen enrollment by institutional type and control
Illinois financial aid applicants
Freshmen enrollment
Undergraduates 18 to 24 years old
Debt by Income Levels.....14
Default Rates by Family Income.....18

III. Higher Education as an Investment.....27
The Investment Model of Student Enrollment Behavior.....27
Risk Costs.....28
Financing Costs.....30

IV. Attitudes Regarding Educational Finance.....33
Higher Education as an Investment.....33
Concerns About Financing College.....35
Attitudes Toward Educational Loans.....39
Attitudes Toward Risk.....43
Income
Net worth
Educational attainment
Age
Willingness to Save for Children's Education.....47

V. Remaining Questions.....50

End note on Public Policy Analysis.....51

References.....53

Appendix Tables.....55

THE IMPACT OF INCREASED LOAN UTILIZATION AMONG LOW FAMILY INCOME STUDENTS

Thomas G. Mortenson
The American College Testing Program

I. Introduction

The Problem

Since 1980, student loans have replaced grant assistance as the largest program of federal student financial aid. Also since 1980, the participation in higher education of students from low family income backgrounds has seriously eroded from the levels achieved by the second half of the 1970s. Is this a coincidence? Or could the substitution of loans for grants have contributed to the loss of higher educational participation by the poor?

This paper examines economic investment theory and attitudinal and behavioral data on loans, investment, risk, and default to identify the population groups most likely to be reluctant to use loans to finance their higher educational investment and to be unsuccessful when they do use student loans to finance educational costs.

This paper contends that loans have been used inappropriately when they do not advance the goal of student financial aid to enhance postsecondary educational opportunity. It is generally held that loans cost the federal government about a third as much as the equivalent in grant assistance. The budgetary view, therefore, sees loans as less expensive substitutes for grant aid to students. This view does not consider the possibility that all populations that apply for financial aid to finance their college attendance costs see loans as equal substitutes for grants. This paper will seek to identify groups within the student aid applicant population whose attitudes and behaviors mark them as significantly less likely to benefit from loan-based financial aid.

While a loan dollar received by the student will buy just as much higher education as a grant dollar, people correctly perceive loans to be more costly than grants. Loans must be repaid, along with origination and insurance fees and interest, usually after the borrower leaves school. They are also more costly because they introduce the element of risk and uncertainty into the financially needy student's enrollment decisions. The net result could be interpreted as replacing one set of financial barriers to higher educational participation with another set of financial barriers.

The reintroduction of financial barriers through loans contradicts the aim of student aid to eliminate financial barriers to higher educational opportunity. The first federal need-based student financial aid programs were created in the Higher Education Act of 1965. Congress was clear in its statement of the problem it saw:

> **The urgent need for new congressional initiative in the field of student financial assistance cannot be stated too strongly. Data on both the increasing costs of education and the mounting numbers of youth, capable and deserving of higher education, but without the means to acquire it, powerfully demonstrate the magnitude of the challenge.**
>
> - Report of the House Committee on Education and Labor on the Higher Education Act of 1965, July 14, 1965.

In 1972 Congress redesigned the federal student aid programs and more sharply focused legislative intent on equality of higher educational opportunity through direct student assistance. Gladieux and Wolanin (1976), in their review of the 1972 Education Amendments, concluded the following:

> **One theme above all dominates the law and the legislative history. The equalization of opportunities for higher education, a goal historically more incidental than integral to federal involvement in this field, clearly became the central commitment of the federal higher education policy with the passage of the Educational Amendments of 1972.**
>
> **As an abstraction, equal opportunity is implicit throughout the bill - in the provisions for community colleges and occupational education, in the state planning provisions, in the institutional aid formula. But operationally, its principal meaning was that lack of money should not be a barrier to an individual's pursuit of education or training beyond high school. Thus the equal opportunity theme is most directly expressed in the student aid provisions, which form the centerpiece of the legislation. Removing the financial barriers facing students was the overriding concern of the legislators, as it had been of the Carnegie Commission and the Rivlin Report.**
>
> **The law embraces a set of new and old student assistance programs designed to ensure equal access to the postsecondary system and to go far toward ensuring equality of choice among institutions ....**

In this paper, we first describe enrollment problems experienced by low income students in higher education during the 1980s, and their borrowing and default experiences with the Stafford Student Loan Program. We then develop the general model of higher educational investment by individuals in terms of benefits and costs, and explore the special costs imposed by student loans that reduce the net benefits of a college education to certain groups who use them. Then, we review several sets of survey data to assess how different population subgroups perceive the benefits and costs of higher education, and how student loans influence the costs and net benefits of higher education faced by student aid recipients. Finally, we identify several important public policy problems associated with student loans.

We introduce the issue by describing the replacement of federal grant assistance with loans during the 1980s.

The Federal Shift from Grants to Loans

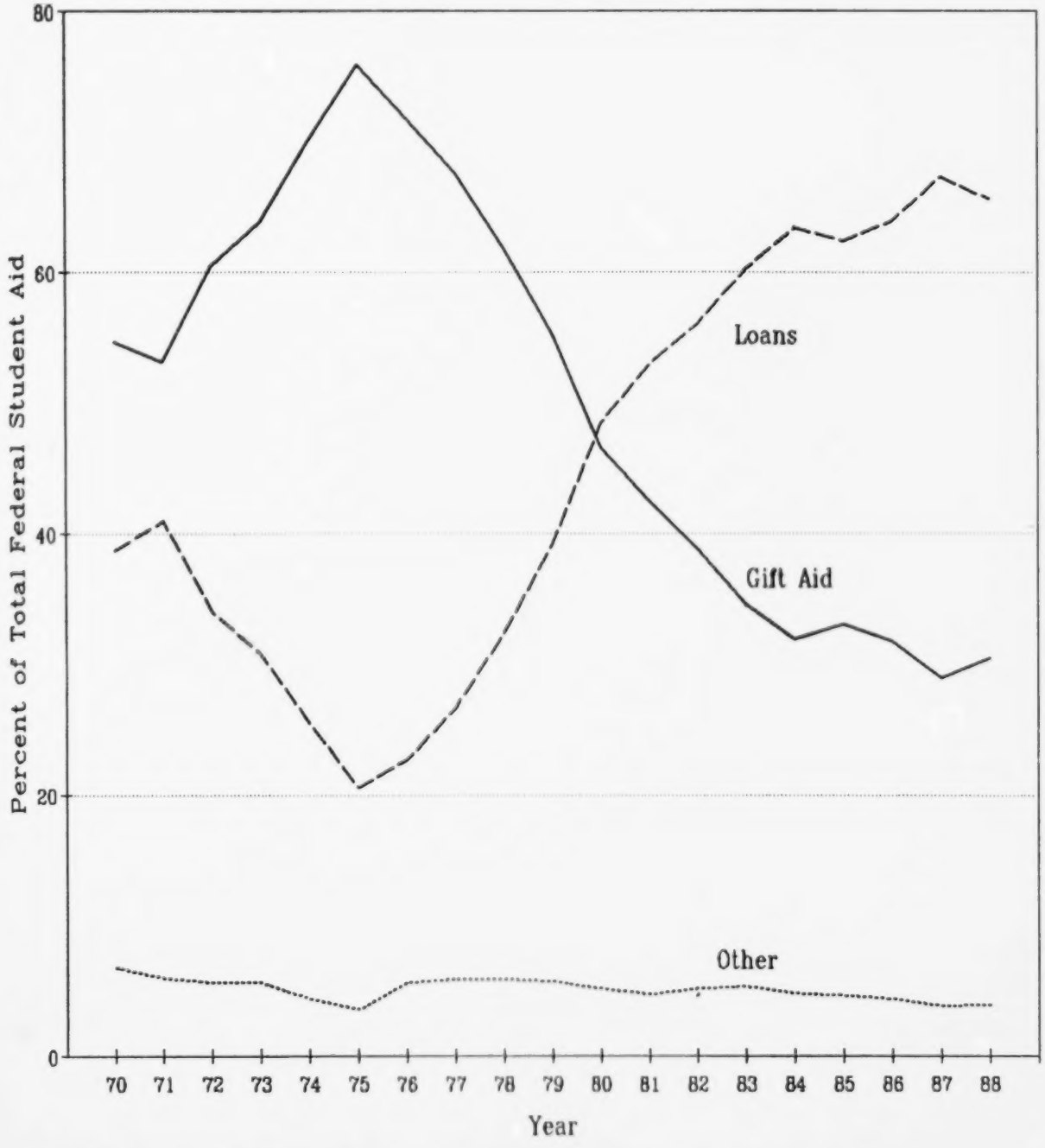
Student financial aid comes in three basic forms: gifts, loans, and employment. Gifts include scholarships, grants, and benefits. Gift aid does not require repayment, but does require qualification. Loans must be repaid following college, along with interest, and in some cases loan processing fees as well. Employment includes federal, state, and institutional programs of working while studying for the purpose of financing college attendance costs.[a]

Federal student aid includes all three types, but federal emphasis on each aid type has depended on time, purpose, and program. Since 1970, the federal government has moved in different directions, toward need-tested grants in the first half of the 1970s and toward guaranteed student loans in the second half of the 1970s. After 1980, more federal aid was awarded through loans than in the form of gift aid. This shift is highlighted in Figure 1, which shows the distribution of federal student aid by type between 1970 and 1988.

For the purpose of this study, we are particularly interested in the effects of substituting loans for gift aid on the low income population, for which the Educational Opportunity Grants were designed in 1965 and the Basic Educational Opportunity Grants were designed and added in 1972. Since 1975, the average annual increase in the Pell Grant maximum for which the poorest applicants could qualify has been about $60 per year. During this same period of time, the average annual increase in costs of attendance faced by such students at public colleges has been about $300 per year, and at private colleges about $600 per year. As a result, as the purchasing power of available grant assistance has diminished, students with financial need have had to rely increasingly on student loans to finance college attendance costs.

[a]Every major federal student financial aid program has experienced a name change since its inception. Within the grant and loan programs that are the focus of this paper, we refer to the following. The original Educational Opportunity Grant Program created in the 1965 Higher Education Act became the Supplemental Educational Opportunity Grant Program (SEOG) in the 1972 Amendments and is still known by that name. The Basic Educational Opportunity Grant Program (BEOG) created in the 1972 Education Amendments became the Pell Grant Program in 1981, and is referred to as Pell in this paper. The original campus-based National Defense Student Loan Program (NDSL) was created in 1958. It was later renamed the National Direct Student Loan Program, and more recently again renamed the Perkins Loan Program. The federally Guaranteed Student Loan Program (GSL) was created in the 1965 Higher Education Act. The core program is now known as the Stafford Student Loan Program. The apparent success and problems of the original program have produced a new generation of offspring including Supplemental Loans for Students (SLS), and Parent Loans for Undergraduates (PLUS). This paper treats all grant programs as one, and all loan programs as one. The differences between the several grant and loan programs are not consequential in this paper.

FIGURE 1
DISTRIBUTION OF FEDERAL STUDENT AID
BY PROGRAM TYPE
1970 TO 1988



Source: Trends in Student Aid, The College Board.

Sources and Types of Student Aid by Income Level

Most of data on undergraduate use of loans to finance educational attendance costs are not useful for our examination of student borrowing, either because loan recipient data are not reported by income level, or because the data are not available for the relevant time period. The least problematic national data file is produced through the National College Freshmen Norms surveys, published by the American Council on Education and the University of California at Los Angeles. This file permits us to examine whether or not college freshmen are using particular types of financial aid, although it is less useful in identifying the amounts of aid received.

We have examined sources of student financial aid for college freshmen stratified by family income levels for the years 1978 through 1986. Family incomes are grouped by level: at or below the poverty level, 101 percent to 200 percent of the poverty level, and 201 percent or more of the poverty level. We will call these three groups poverty income, modest income, and comfortable income respectively. Figures 2 through 4 summarize, for the period 1978 to 1986, the proportion of each group receiving financial assistance from family (parents and student), gifts (federal, state, institutional grants and scholarships), and loans (mainly federal).

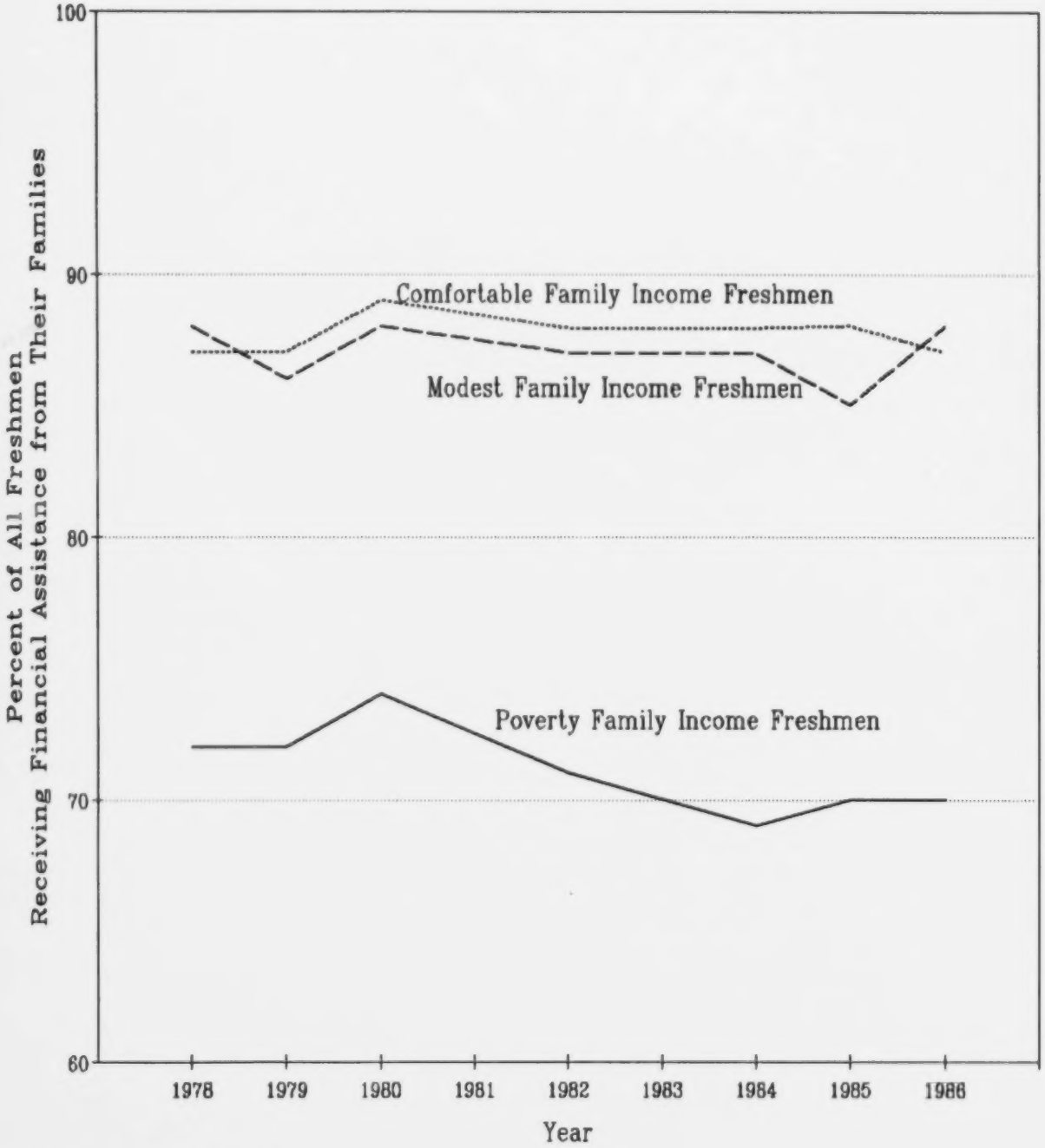
Family financial assistance. Figure 2 shows the proportion of freshmen receiving at least some assistance through their families. Family assistance includes parents, own savings, and employment. Of the freshmen from modest income and comfortable families, 85 to 89 percent receive assistance from their families or through their own employment or savings, compared to 69 to 74 percent of those from poverty level families. While the proportion of modest and comfortable family income freshmen receiving assistance from their families or themselves has remained stable between 1978 and 1986, the proportion of freshmen from poverty family income reporting family assistance has declined, most notably between 1980 and 1984.

The sources of family financial assistance for college freshmen differ by family income level. About half of those from poverty family income levels receive financial support from their parents, compared to 70 percent of those from modest family incomes and nearly 80 percent of those from comfortable family income backgrounds. About 40 percent of the poverty level freshmen use their own savings, compared to 58 percent of those from modest family incomes and about 55 percent of those from comfortable families. About 35 percent of poverty level students use earnings from employment to finance college, compared to 50 percent of freshmen from modest family incomes and 33 percent of freshmen from comfortable families. Between 1978 and 1986, there were no strong trends in any of these data.

Gift assistance. The proportion of college freshmen receiving gift aid by family income level is shown in Figure 3. Interestingly, the poorest freshmen--those from poverty level family income backgrounds--are less likely to report having received any grants or scholarships than are freshmen from modest family income backgrounds.

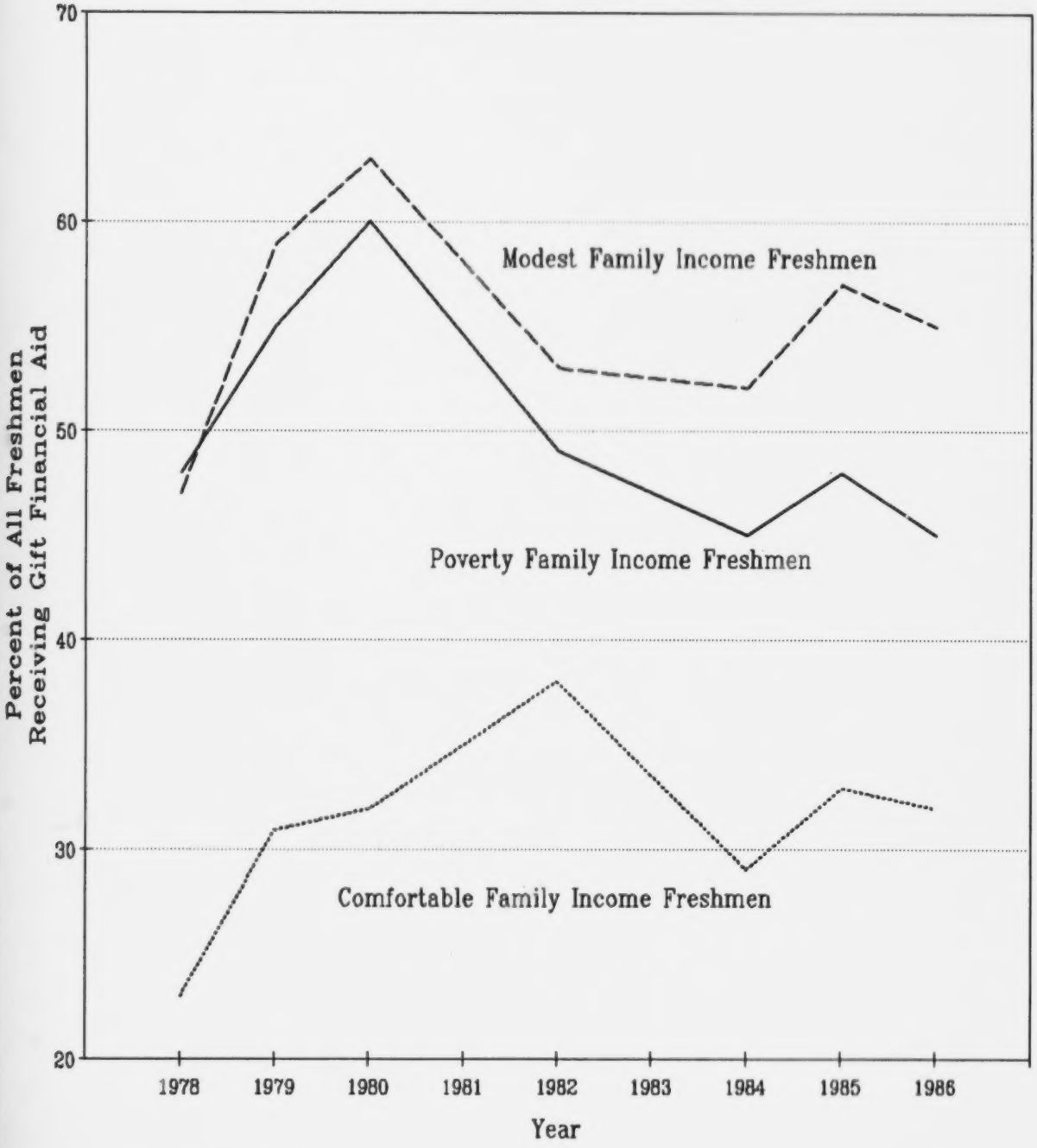
But most interesting of all is this: between 1980 and 1986, the proportion of college freshmen from poverty family incomes reporting having

FIGURE 2
FAMILY FINANCIAL SUPPORT
FOR AMERICAN COLLEGE FRESHMEN
1978 TO 1986



Source: National College Freshmen Norms.

FIGURE 3
GIFT AID
FOR AMERICAN COLLEGE FRESHMEN
1978 TO 1986



Source: National College Freshmen Norms.

received gift aid fell by 15 percent, from 60 percent of all freshmen to 45 percent in six years. The proportion of freshmen from modest family income backgrounds that received gift aid declined by 8 percent, from 63 to 55 percent during this same time period. And the proportion of freshmen from comfortable family income backgrounds reporting gift aid held constant at 32 percent. The group experiencing the greatest reduction in gift aid eligibility between 1980 and 1986 was the poorest group--freshmen from poverty level family income backgrounds.

We have examined gift aid use by program as well. Among college freshmen from poverty level family income backgrounds, the proportion reporting having received a Pell Grant declined from 49 percent in 1980 to 34 percent by 1986--a 15 percent decrease. For this same income group, SEOG use dropped by 6 percent, state scholarships/grants by 6 percent, and college grants increased by 2 percent. The finding regarding use of Pell Grants is particularly troubling because all full-time, first-time college freshmen from poverty level backgrounds should have qualified for maximum Pell Grants if they had applied for any need-tested grant aid during this period.

Among freshmen from modest family income backgrounds--101 to 200 percent of the federal poverty level--similar trends prevailed. The proportion of freshmen receiving Pell Grants declined from 44 percent in 1980, to 28 percent by 1986--a decline of 16 percent. The proportion of modest family income freshmen reporting SEOGs declined by 2 percent, and state scholarships or grants declined by 5 percent. The proportion reporting college grants increased by 7 percent.

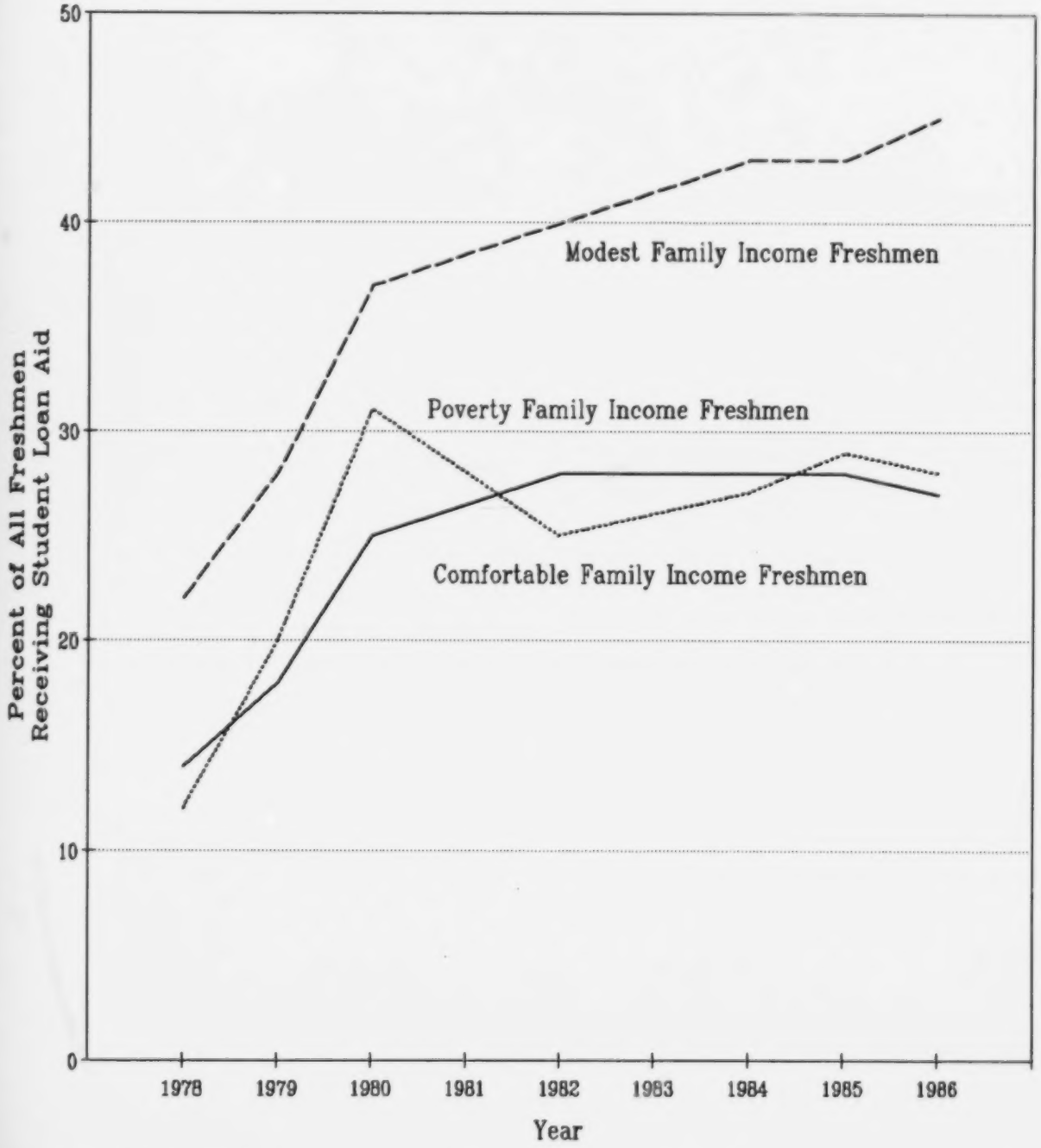
Among freshmen from comfortable family income backgrounds--more than 200 percent of the federal poverty level--the use of Pell Grants has declined by 5 percent, SEOG use has declined by 1 percent, and use of state scholarships and grants has not changed. College-awarded grants to well-off students has increased by 6 percent between 1980 and 1986.

Loan assistance. While loans have become more widely used by freshmen to finance their higher educations, not all income groups have shared in this expanded use of loans. As shown in Figure 4, the greatest growth in the use of loans has been among modest income freshmen, followed by poverty income freshmen. The proportion of comfortable family income freshmen reporting loan use declined between 1980 and 1986.

The growth in student loan use has occurred exclusively through the federal Stafford Student Loan Program. Among freshmen from poverty level family income backgrounds, the rate of Stafford Loan use increased from 14 to 21 percent between 1980 and 1986--an increase of 7 percent. Among modest family income freshmen, loan use increased by 15 percent, from 21 to 36 percent. Among comfortable family income freshmen, loan use held constant at 21 percent during this same period.

In the above review of changes in the financial aid types received by freshmen from different family income backgrounds, we have examined financial aid awards for freshmen enrolled in higher education. However, during the period from 1980 to 1986, significant changes occurred in the access and choice behaviors of college freshmen from low family income backgrounds. We will review these changes in the next section.

FIGURE 4
STUDENT LOANS
FOR AMERICAN COLLEGE FRESHMEN
1978 TO 1986



Source: National College Freshmen Norms.

II. Behavioral Indications

As loans have come to replace grants in federal student aid programs, particularly for low income students, college enrollment patterns have changed. So too have Stafford Loan debt levels and default rates. In this section we examine these behavioral indicators by income level.

Trends in Higher Educational Participation by Family Income Level

Since the creation of need based student financial aid programs in the Higher Education Act of 1965, federal student financial aid has been focused on those who demonstrated financial need to be able to finance their higher educations. Moreover, the more financial need demonstrated, the larger the federal student aid eligibility and award. Thus, for twenty-five years most federal student financial aid has been targeted toward the needy, and the more needy the applicant the more aid he or she generally received. To a lesser but not inconsiderable extent, states have developed student financial aid programs using similar guidelines to assess need for state grants.

Financial need is the difference between college attendance costs and expected family contribution determined by need analysis. Many factors enter into the calculation of need, such as tuition, whether one lives on-or off-campus or at home, family size, and assets. But family income is one of the most important and--given the historical unwillingness of Congress to consider actual college attendance costs in its major grant program, the Pell Grant Program--probably the most important determinant of need.

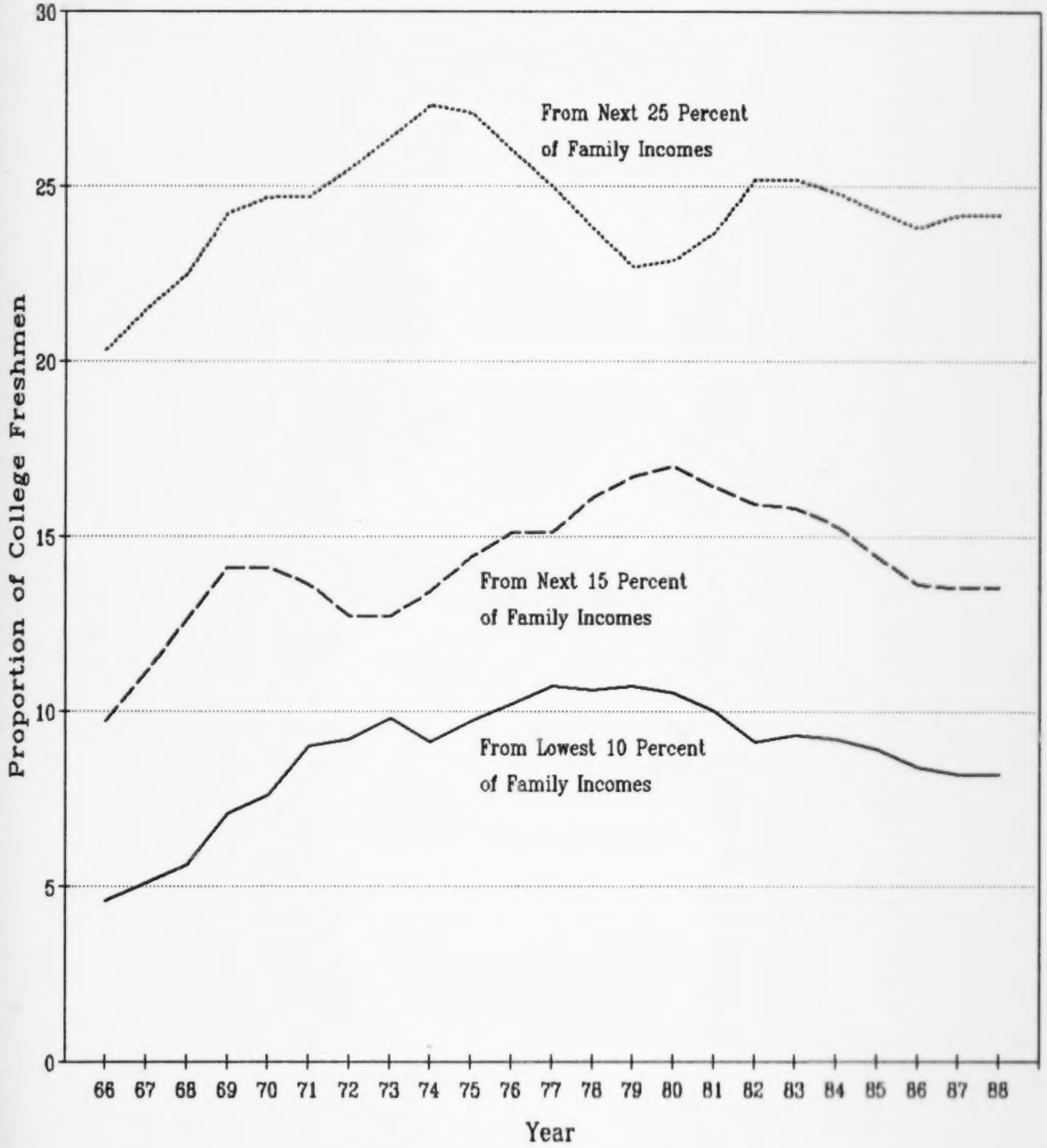
In Figure 5, data on family incomes from the Census Bureau and on family incomes of college freshmen from the annual survey of American college freshmen have been combined to illustrate college access trends by family income level between 1966 and 1988. This chart plots the college enrollment rates of freshmen from the lowest 10 percent of the family income range, along with the rates for freshmen from the next 15 percent and the next 25 percent of the family income distribution.

Bottom 10 percent. Students from the lowest 10 percent of the family income distribution constituted 4.6 percent of all college freshmen in 1966, immediately after passage of the Higher Education Act of 1965. Then, between 1966 and 1977, the proportion of college freshmen from the lowest 10 percent of the family income distribution increased steadily to 10.7 percent of all freshmen. During the decade following the signing of the Higher Education Act, the college entrance rate for this group increased by 133 percent.

Since 1979, however, these gains have been substantially eroded. By 1987 and 1988, students from the lowest 10 percent of the family income distribution had dropped to 8.2 percent of all freshmen. Put in other terms, 41 percent of the access gain made between 1966 and 1977 was lost between 1979 and 1987.

Next 15 percent. The trend in higher educational participation for students from families from the next 15 percent of the family income distribution is largely similar to that just described. Students from this

FIGURE 5
PROPORTIONAL REPRESENTATION OF COLLEGE FRESHMEN FROM DIFFERENT FAMILY INCOME RANGES 1966 TO 1988



Sources: Current Population Reports P-60 and National College Freshmen Norms

family income interval constituted 9.7 percent of all college freshmen in 1966. This proportion then increased to 17.0 percent by 1980, an increase of 75 percent in the college enrollment rate.

After 1980, these gains were eroded. By 1987 these students made up 13.5 percent of all college freshmen. That is to say, 48 percent of the college access gain made between 1966 and 1980 was lost between 1980 and 1987.

Next 25 percent. Again, we see fluctuations in college access rates for students from families whose incomes fell between the 25th percentile and median family income.[a] In 1966 the proportion of all college freshmen from this quartile was 20.3 percent. Their proportion grew to a peak of 27.3 percent in 1974, and has since declined to 23.8 percent by 1986 and 24.4 percent by 1988. The loss of enrollment share between 1974 and 1986 amounted to half of the gain achieved between 1966 and 1974.

This population in particular appears to have benefited from passage of the Middle Income Student Assistance Act of 1978. Between 1974 and 1979 their share of college freshmen enrollments declined from 27.3 to 22.7 percent. However, by 1982 and 1983 their share had risen to 25.2 percent of all freshmen. Since 1983 their share has declined, but only slightly.

The overall pattern described here for students from the bottom half of the family income distribution is one of substantial growth in higher educational participation between 1966 and the second half of the 1970s, followed by erosion of 40 to 50 percent of those gains during the 1980s. Because financial aid was designed to enhance the higher educational participation of lower income students, this loss is a profoundly troubling reflection on the performance of student financial aid programs during the 1980s.

Enrollment Redistribution

Beyond the college access issue identified in Figure 5 is the college choice question--or where students from different income backgrounds go to college. In the previous section we examined the participation of the poor in higher education; college access for the poor has clearly and sharply suffered during the 1980s. Here we examine data from several sources regarding college choice for economically disadvantaged and financial aid dependent populations.

Freshmen enrollment by institutional type and control. The National College Freshmen Norms collect data on college choice and enrollment decisions by income level and family size. From these data elements we can identify approximately which college freshmen fall below the federal poverty level, and their distribution and concentration across institutional control and type.[b] These data appear in Table 1.

[a]Family income here refers to the incomes of families with heads age 35 to 54 years--those most likely to have college age children.

[b]The income intervals used in the NCFN survey do not match precisely the poverty thresholds for different family sizes. We have approximated this relationship to compile Table 1.

TABLE 1
Distribution of Poverty Level American College Freshmen by Level and Control of Institution 1978 to 1986

	1978	1979	1980	1982	1984	1985	1986
Two Year Colleges							
Public	37.4%	33.9%	32.0%	36.0%	34.8%	34.4%	39.7%
Private	2.9	3.0	3.4	4.9	6.1	4.7	4.6
Subtotal	40.3	36.9	35.4	40.9	40.9	39.1	44.3
Four Year Colleges							
Public	26.8	33.3	32.2	27.2	30.9	30.7	30.0
Private	14.4	14.4	15.2	13.6	15.9	15.3	16.1
Subtotal	41.2	47.7	47.4	40.8	46.8	46.0	46.1
Universities							
Public	13.1	12.3	12.1	15.6	9.6	11.2	7.3
Private	5.4	3.1	5.1	2.8	2.7	3.7	2.4
Subtotal	18.5	15.4	17.1	18.4	13.3	14.9	9.7
Public	77.3	79.6	76.3	78.8	75.3	76.3	76.9
Private	22.7	20.4	23.7	21.2	24.7	23.7	23.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: ACT tabulations from National College Freshmen Norms data files.

The major finding from Table 1 is the reduction in the proportion of poverty family income background freshmen enrolled in universities, both public and private, between 1978 and 1986. Between 1982 and 1986, the proportion of poverty level freshmen enrolled in public universities declined by nearly half. Most of the decline in private universities occurred between 1978 and 1982, and in public universities between 1982 and 1986. Universities tend to have the highest tuition charges and most selective admissions policies. Concomitantly, freshmen from poverty family income backgrounds appear to have become more concentrated in two year colleges--the least expensive collegiate education.

The preceding finding of an increasing proportion of poor undergraduates moving out of senior colleges and into junior colleges is corroborated by three additional studies not detailed in this paper. However, because of the significance of this finding, they are described generally here.

Illinois financial aid applicants. Mortenson (1986) reported on the redistribution across institutional type and control of dependent Illinois state grant applicants classified by income levels over the period between 1979 and 1985. Below about $15,000 of family income (1978 dollars), public two-year colleges increased their market share of state grant applicants. This gain came from both public universities and private colleges and universities. Above about $20,000 of family income (1978 dollars), public universities gained in market share of Illinois state grant applicants. This

gain came at the expense of private colleges and universities. In Illinois during the period from 1979 to 1985, the poorest students were shifting their enrollments to the least expensive institutions while more middle income grant applicants were shifting their enrollments from the most expensive institutions to similar but less costly public institutions.

Freshmen enrollment. Davis and Johns (1988) described changes in the patterns of a national sample of low income college freshmen enrollment by institutional type and control at five year intervals between 1966 and 1986. A part of their study examined the proportion of freshmen enrolled from the bottom quartile of the family income distribution in eight different types and controls of American colleges. In all eight institutional types, the proportion of freshmen enrolled from the bottom quartile of the family income distribution increased between 1966 and 1981, and dropped between 1981 and 1986. However, the decline in the proportion of bottom quartile freshmen enrolled was least in public two-year colleges, private universities, and independent four-year colleges. The decline in bottom family income quartile freshmen enrollments was greatest among private two-year colleges, and public, protestant, and Catholic four-year colleges.

Undergraduates 18 to 24 years old. We have examined the distribution across institutional types of 18 to 24 year old undergraduate enrollments by family income for the years 1973 to 1986 from the Current Population Survey. These data are charted in Figures 6 and 7. Figure 6, for the first quartile of the family income distribution, shows growth in enrollment share in two-year colleges, and a decline in enrollment share of first quartile family income undergraduates in four-year colleges. A nearly identical pattern appears in Figure 7 for undergraduates from the second quartile of the family income distribution. The Current Population Survey data indicates a long term trend of low income enrollment shift out of senior colleges and into junior colleges.

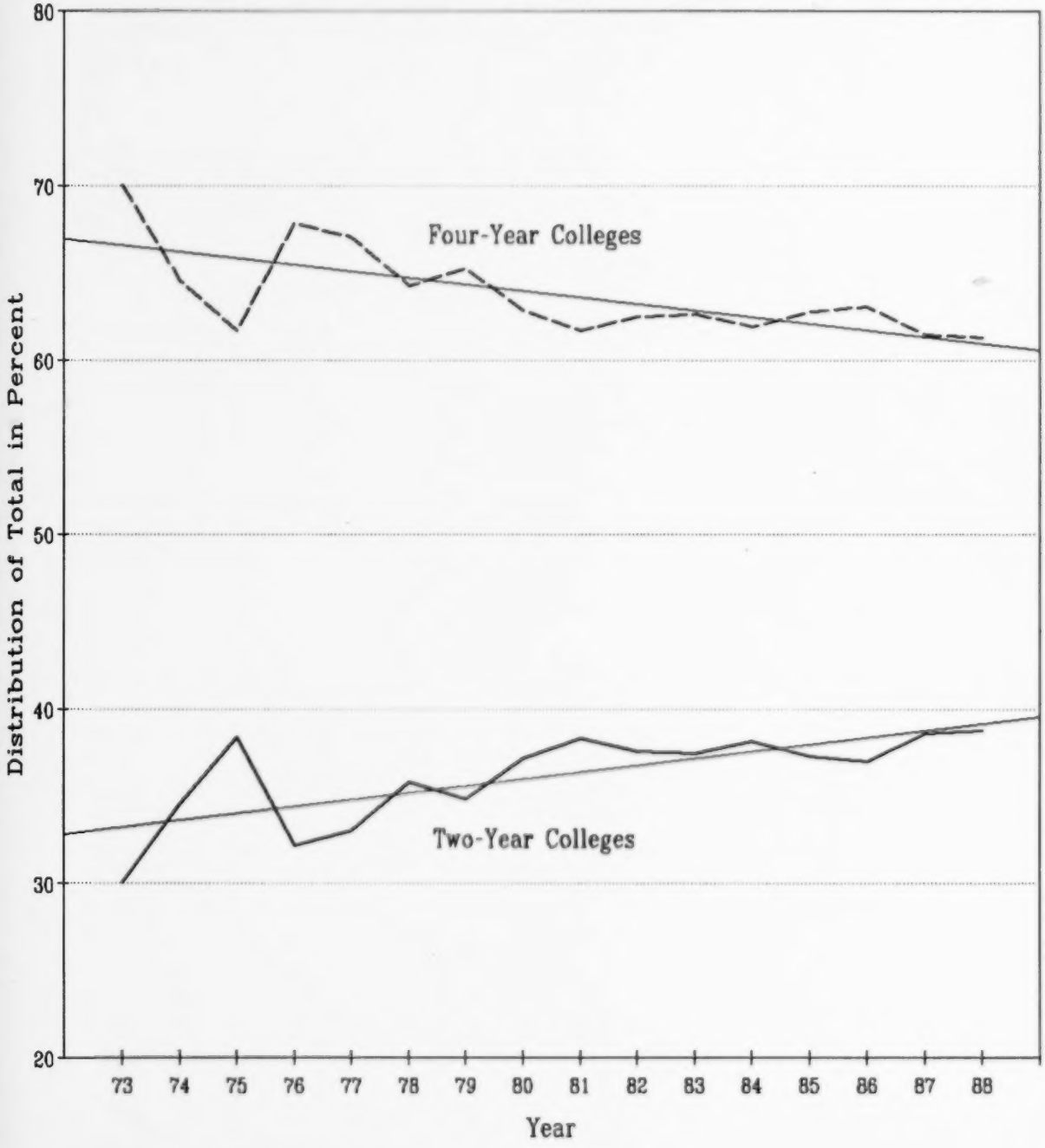
These four studies of enrollment redistribution by income level support the finding that students from low family income backgrounds have become increasingly concentrated in public two-year colleges during the 1980s. This shift appears to have come mainly from public senior colleges, although the results on this point are not entirely consistent. Part of this inconsistency appears to be due to nomenclature problems.

Debt by Income Levels

The Pennsylvania Higher Education Assistance Agency (PHEAA) has monitored cumulative Stafford Student Loan debt burdens of students enrolled in Pennsylvania postsecondary institutions. In PHEAA's most recent study, cumulative debt data by family income level and school type were compiled for 1988-89 undergraduates; these data are shown in Figure 8. The first significant finding in the PHEAA data is that cumulative debt levels are higher among lower income borrowers than they are among higher income borrowers in all four types of higher educational institutional institutions. That is, students from poorer families have borrowed more than students from higher family income backgrounds. Note that this has occurred when the higher educational participation of students from low family income backgrounds has dropped off

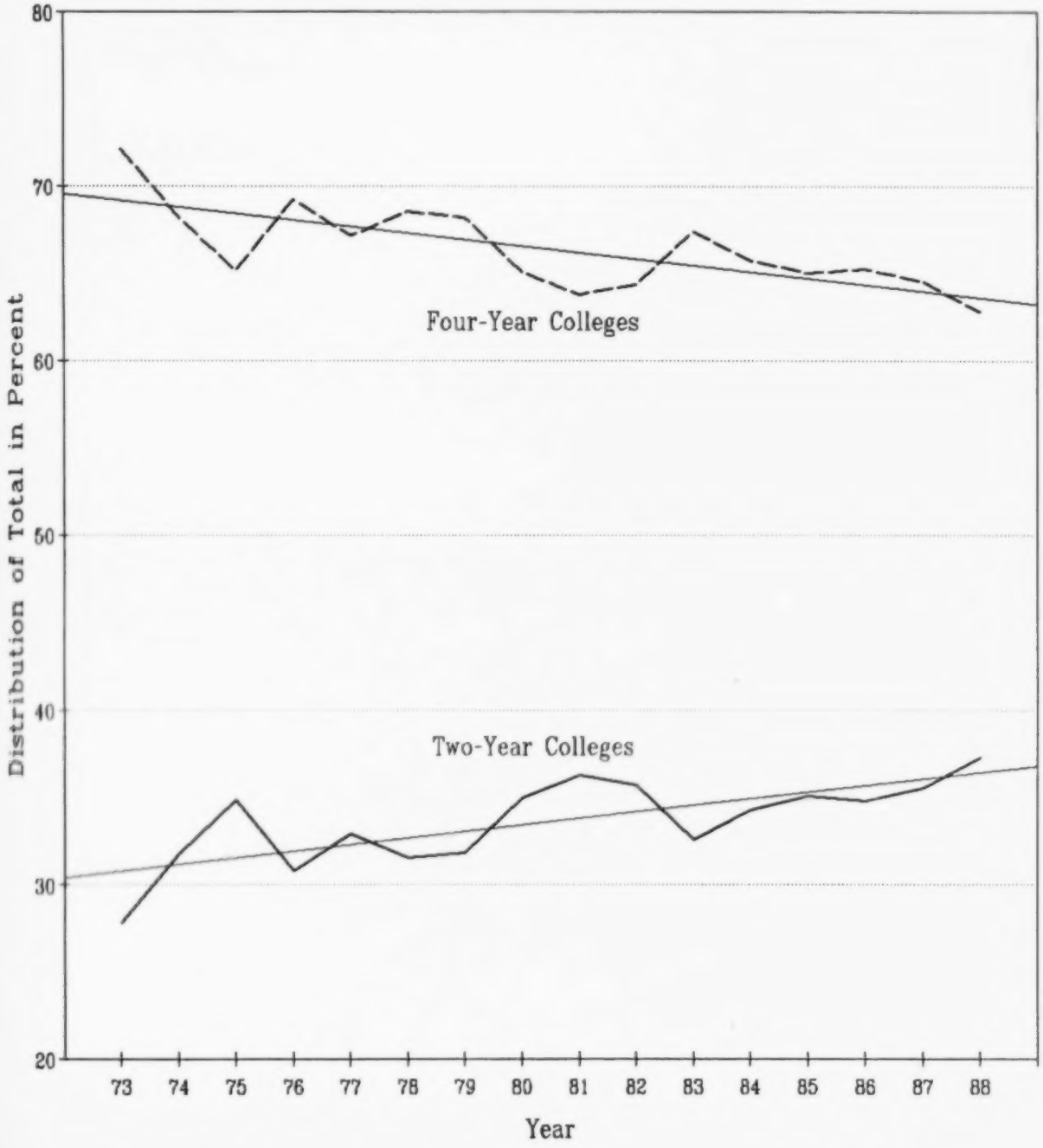
FIGURE 6

ENROLLMENT DISTRIBUTION OF 18 TO 24 YEAR OLD UNDERGRADUATES FROM THE FIRST QUARTILE OF FAMILY INCOME OF ENROLLED STUDENTS BY TYPE OF INSTITUTION, 1973 TO 1988



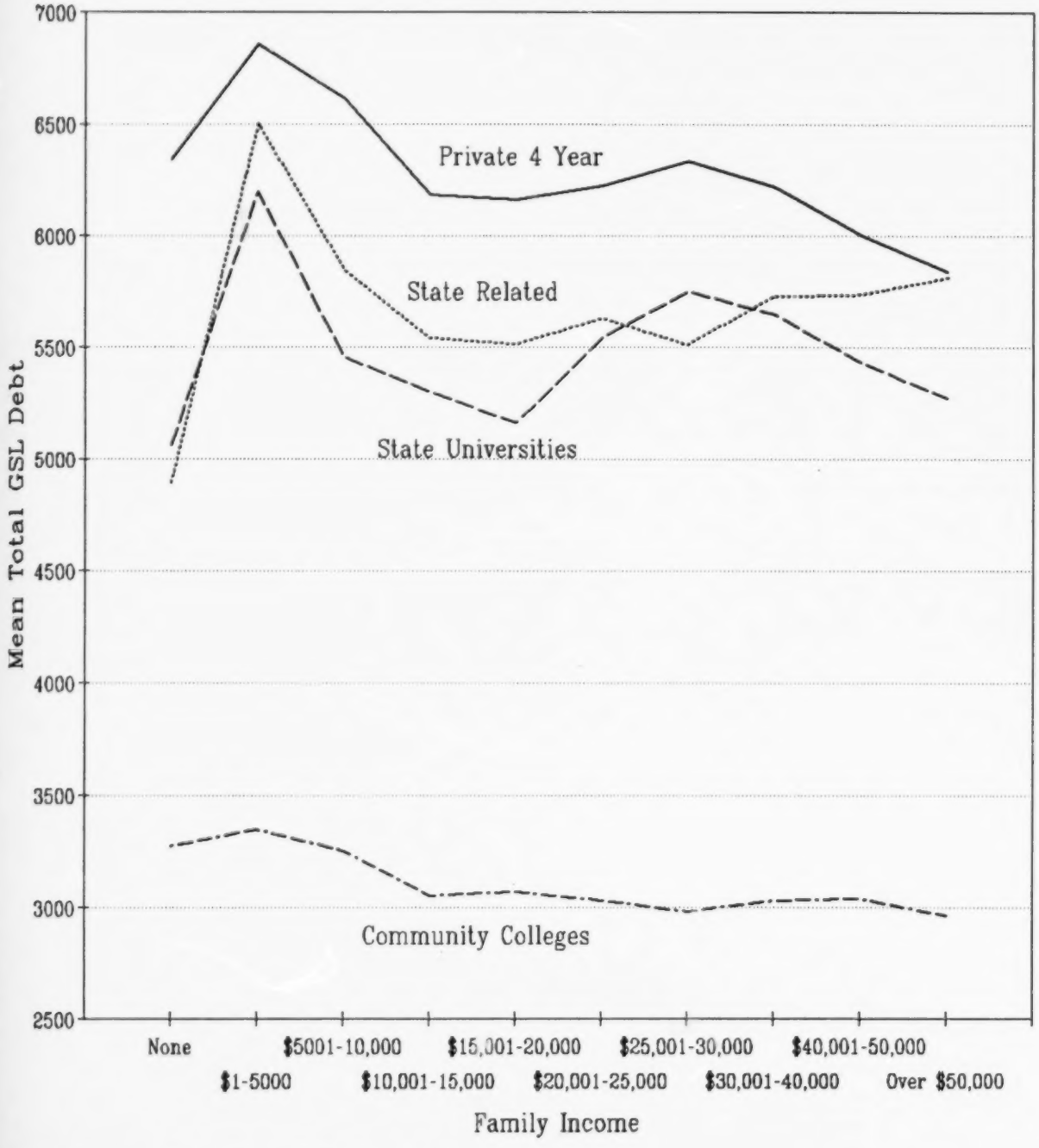
Source: Current Population Survey, Series P-20, annual.

FIGURE 7
ENROLLMENT DISTRIBUTION OF 18 TO 24 YEAR OLD UNDERGRADUATES FROM THE SECOND QUARTILE OF FAMILY INCOME OF ENROLLED STUDENTS BY TYPE OF INSTITUTION, 1973 TO 1988



Source: Current Population Survey, Series P-20, annual.

FIGURE 8
MEAN GUARANTEED STUDENT LOAN INDEBTEDNESS FOR UNDERGRADUATES BY FAMILY INCOME AND INSTITUTIONAL TYPE 1988-89



Source: Pennsylvania Higher Education Assistance Agency.

sharply from the levels reached during the late 1970s. The declining portion of this population that has actually enrolled in higher education has had to assume greater levels of educational debt to be able to do so.

However, the higher debt levels among poorer students is a recent phenomenon. A comparison of debt for 1988-89 with 1983-84 shows that most of the growth in debt levels has occurred among lowest income borrowers. As shown in Figure 9 for private four-year colleges in Pennsylvania, in 1983-84 cumulative debt levels were lowest for the poorest students, and highest for those from the most comfortable families. This situation was reversed by 1988-89. For example, in the $5001 to $10,000 income range, cumulative debt increased from $5147 to $6615, an increase of $1468 or 29 percent. However, above $50,000 income, debt decreased from $6723 to $5838, or a decrease of $885 or 13 percent.

The cumulative debt burdens by family income levels for 1983-84 and 1988-89 for Pennsylvania state universities, state related colleges, community colleges, and proprietary schools are shown in Figures 10 through 13. In each case except the last, the general pattern of Figure 9 prevails--greatest cumulative debt shifted from the most comfortable to the poorest students during this five year period. The greatest growth in debt occurred among the poorest loan recipients.

For all institutional types combined, Figure 14 shows the growth in cumulative debt by family income level. Between 1983-84 and 1988-89, debt growth was greatest in the family income interval of $5,001 to $10,000, a growth of $1,487. For students from families with incomes of more than $50,000 per year, debt actually declined by $283.

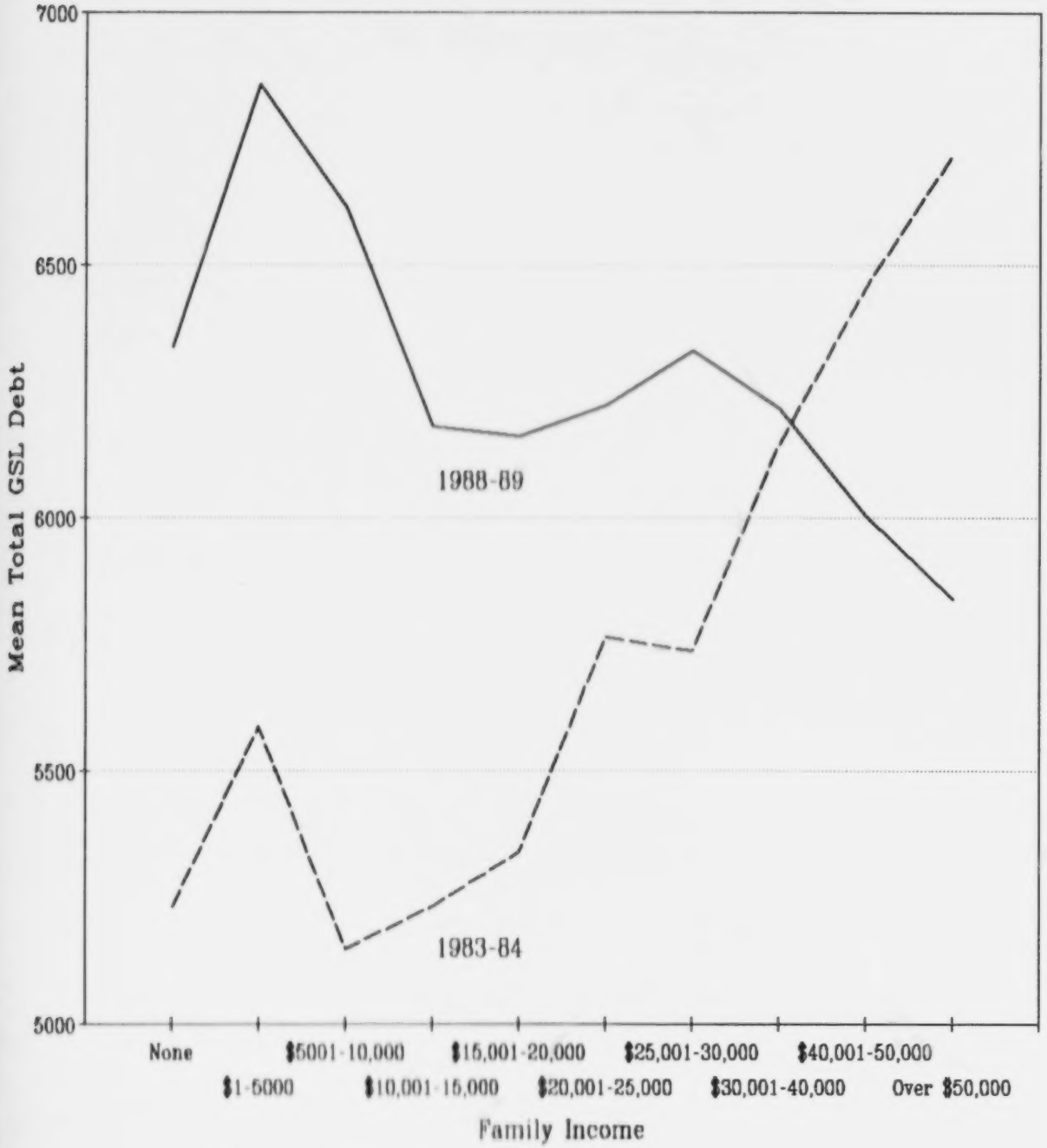
The declining purchasing power of federal grant assistance for the lowest income student aid applicants appears to have resulted in increased cumulative indebtedness for low income college students. In fact, increased indebtedness between 1983-84 and 1988-89 appears to have befallen primarily the lowest income students in higher education.

Default Rates by Family Income

Again, the Pennsylvania Higher Education Assistance Agency's analysis of its student borrowers provides us with especially valuable information on default probability by family income level. Figure 15 shows the relationship between income (adjusted gross income) and default rates for Pennsylvania undergraduate borrowers. These default rates were calculated for loans that reached maturity in the 1983-84 fiscal year and were in default by November of 1985.

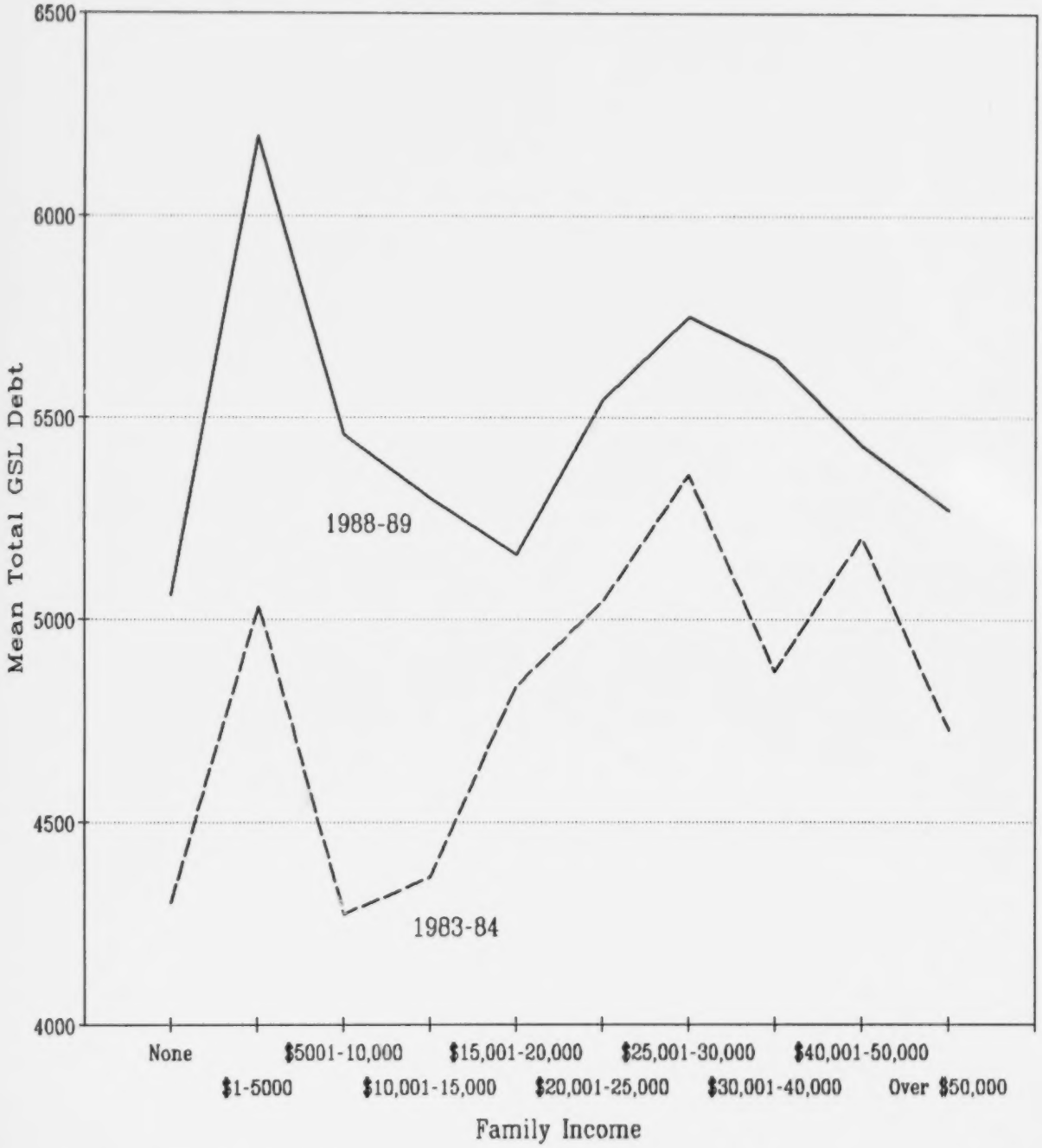
Default rates in Figure 15 range from a high of 41.5 percent among borrowers with incomes of less than $6,000 to a low of 3.4 percent among borrowers with incomes of more than $42,000. That is, a borrower with an income of less than $6,000 per year was more than twelve times as likely to default on his than was a borrower with an income of more than $42,000 per year. This general pattern held up across all types of Pennsylvania institutions, including private four-year institutions, state universities, state-related colleges, junior and community colleges, nursing schools, vo-tech schools, proprietary schools, and out-of-state institutions.

FIGURE 9
MEAN GUARANTEED STUDENT LOAN INDEBTEDNESS BY FAMILY INCOME FOR UNDERGRADUATES IN PENNSYLVANIA PRIVATE 4 YEAR COLLEGES 1983-84 AND 1988-89



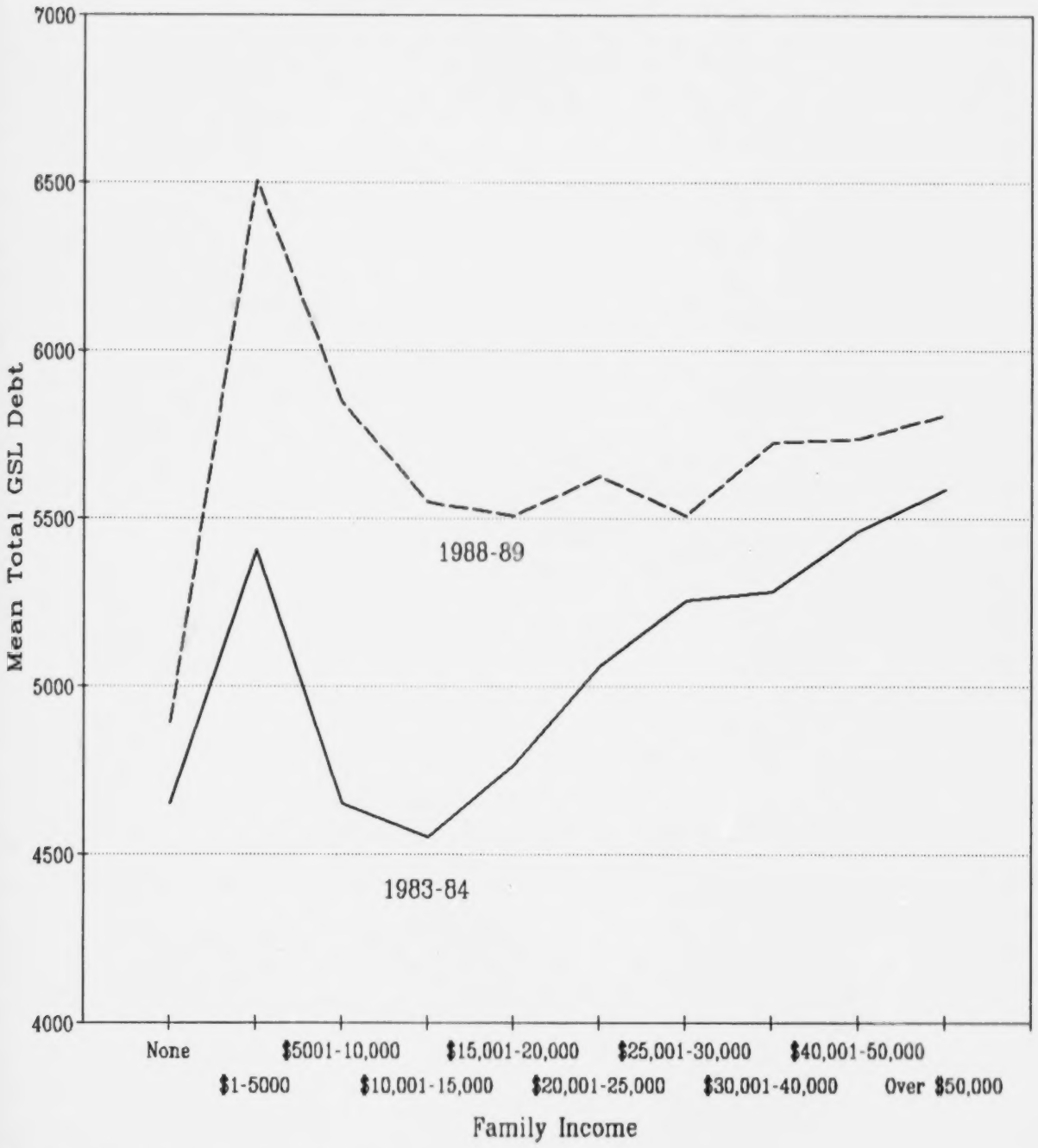
Source: Pennsylvania Higher Education Assistance Agency

FIGURE 10
MEAN GUARANTEED STUDENT LOAN INDEBTEDNESS BY FAMILY INCOME
FOR UNDERGRADUATES IN PENNSYLVANIA STATE UNIVERSITIES
1983-84 AND 1988-89



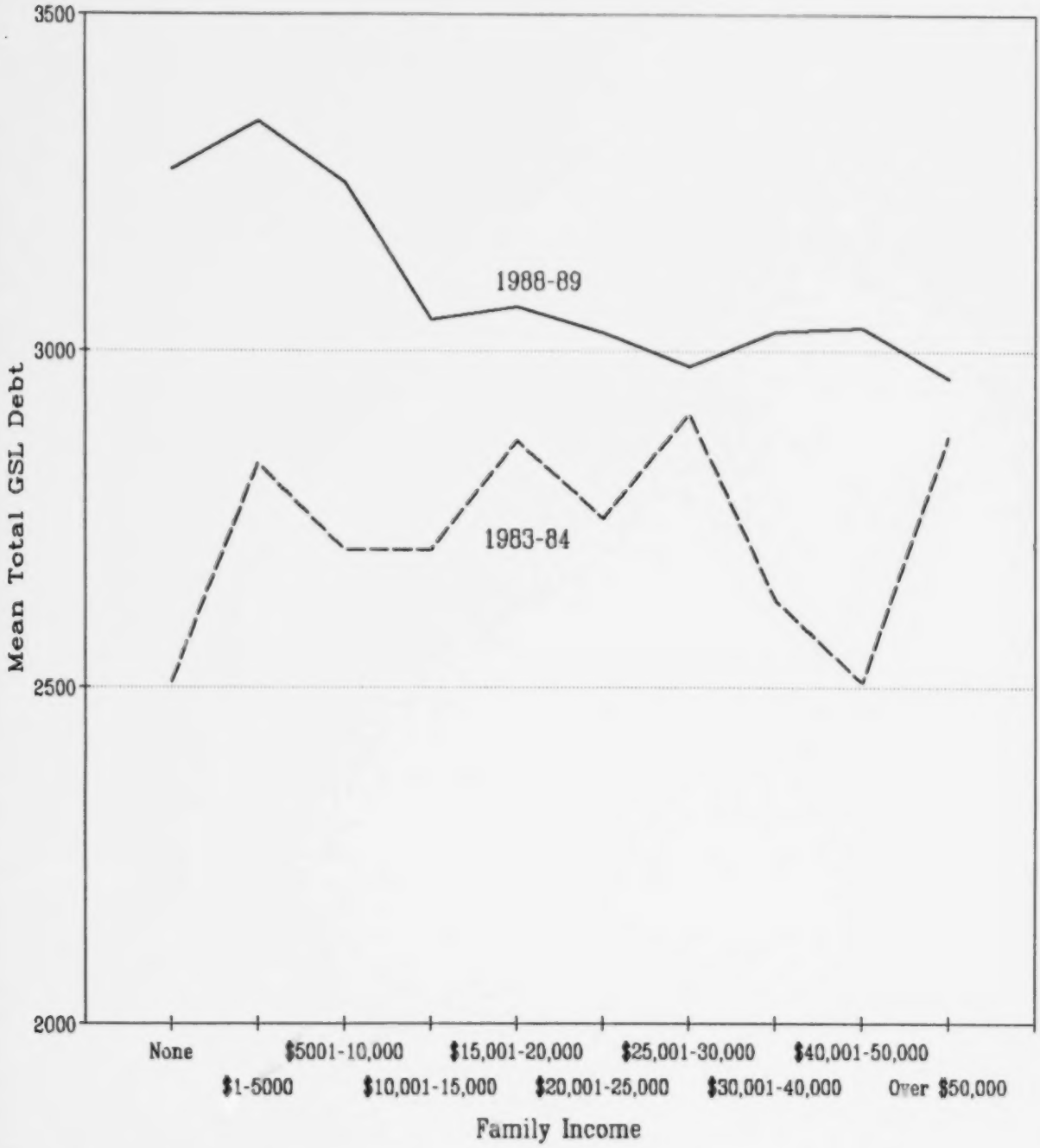
Source: Pennsylvania Higher Education Assistance Agency.

FIGURE 11
MEAN GUARANTEED STUDENT LOAN INDEBTEDNESS BY FAMILY INCOME
FOR UNDERGRADUATES IN PENNSYLVANIA STATE RELATED COLLEGES
1983-84 AND 1988-89



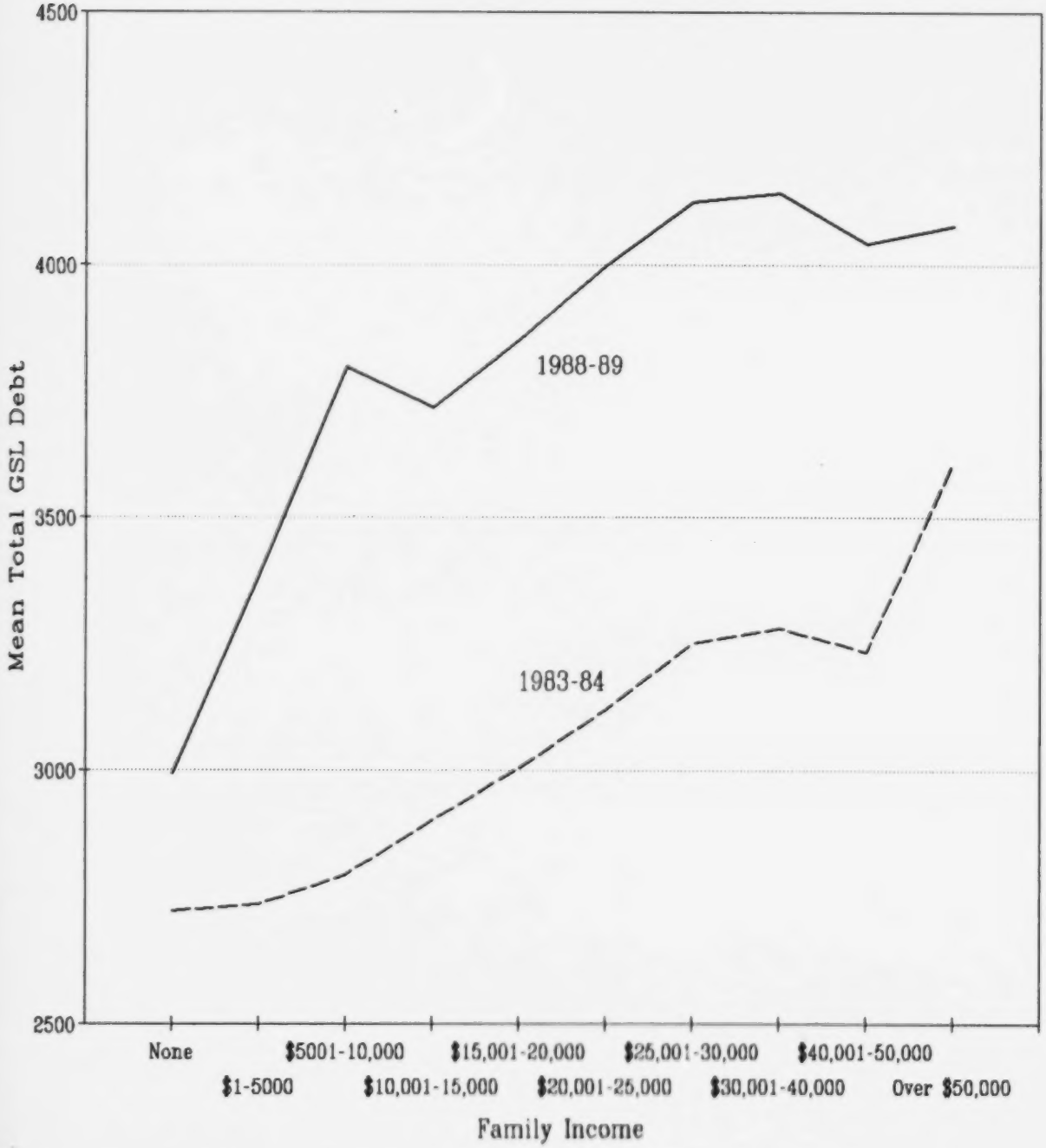
Source: Pennsylvania Higher Education Assistance Agency.

FIGURE 12
MEAN GUARANTEED STUDENT LOAN INDEBTEDNESS BY FAMILY INCOME
FOR UNDERGRADUATES IN PENNSYLVANIA COMMUNITY COLLEGES
1983-84 AND 1988-89



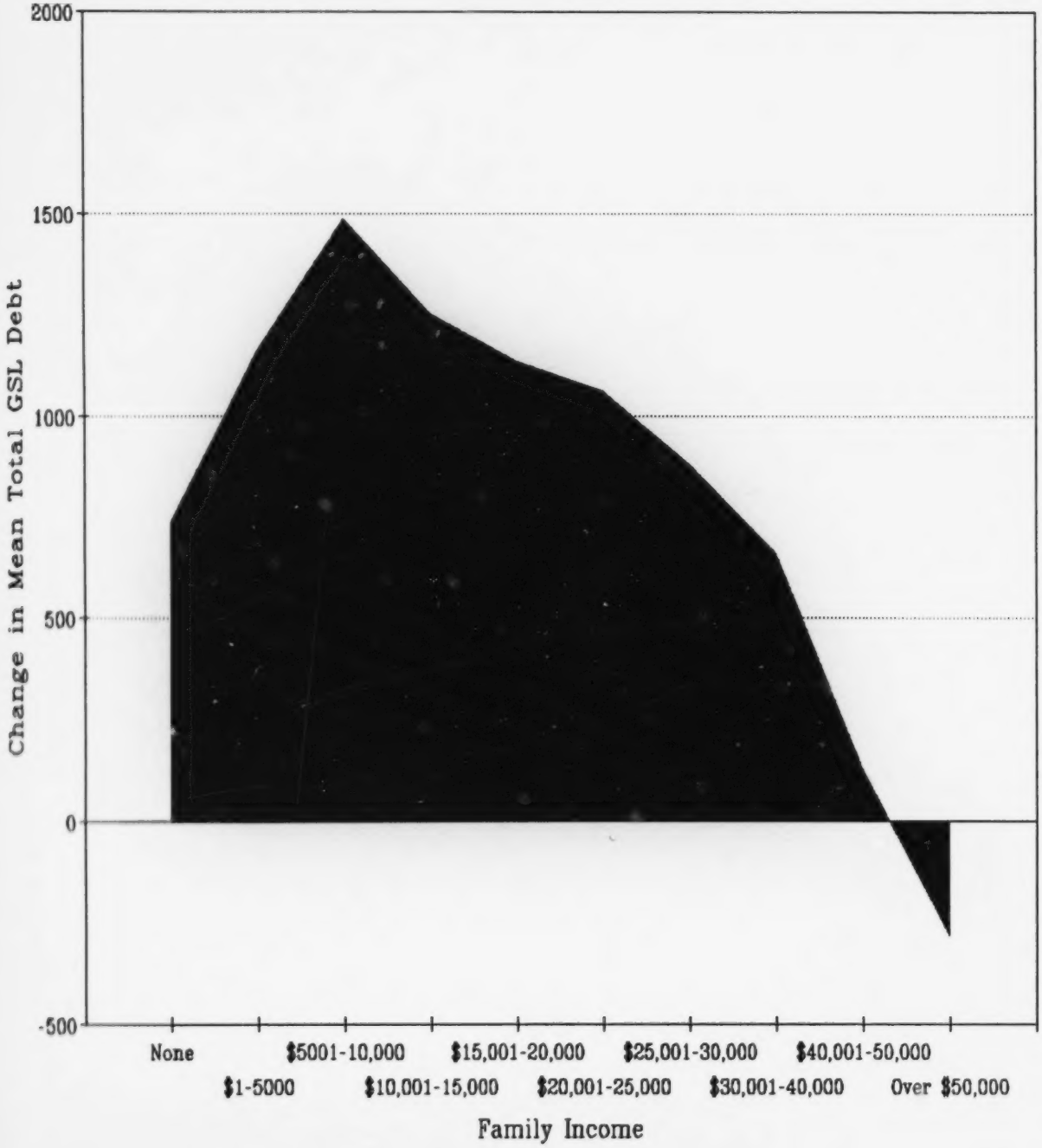
Source: Pennsylvania Higher Education Assistance Agency.

FIGURE 13
MEAN GUARANTEED STUDENT LOAN INDEBTEDNESS BY FAMILY INCOME
FOR UNDERGRADUATES IN PENNSYLVANIA PROPRIETARY SCHOOLS
1983-84 AND 1988-89



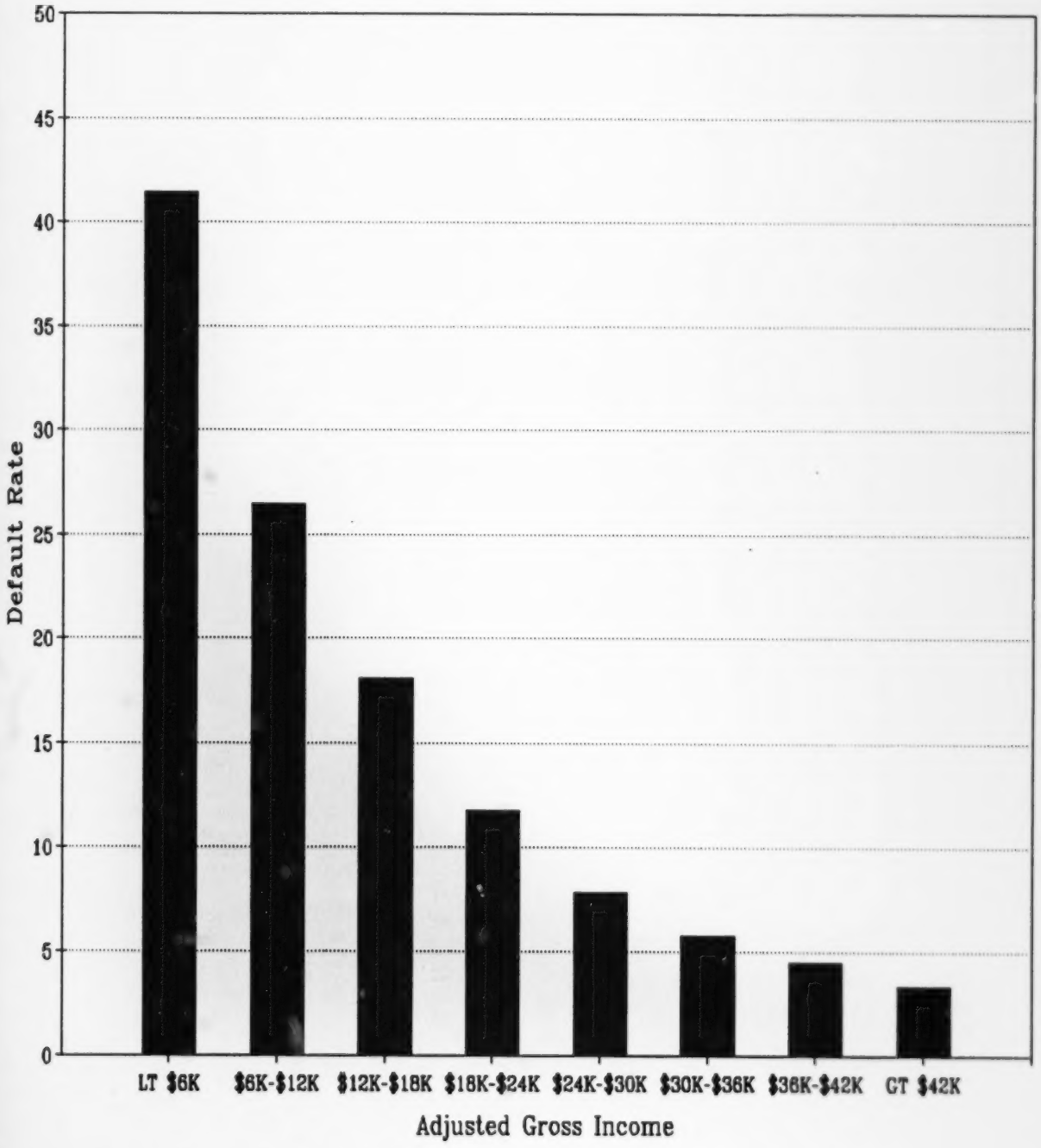
Source: Pennsylvania Higher Education Assistance Agency.

FIGURE 14
CHANGE IN MEAN GUARANTEED STUDENT LOAN INDEBTEDNESS BY FAMILY INCOME FOR UNDERGRADUATES IN PENNSYLVANIA BETWEEN 1983-84 AND 1988-89



Source: Pennsylvania Higher Education Assistance Agency.

FIGURE 15
DEFAULT RATES FOR GUARANTEED STUDENT LOANS
BY INCOME OF THE BORROWER
1985



Source: Pennsylvania Higher Education Assistance Agency.

This finding--that lowest income borrowers have the highest probability of defaulting on their Stafford Student Loans--is supported by several other state and national studies.

In the next sections we examine and interpret these data from the perspectives of economic theory and attitudinal survey data.

III. Higher Education as an Investment

An investor seeking to maximize return on a potential investment evaluates choices by comparing benefits to costs for each alternative under consideration and then choosing the alternative that offers the greatest return on his investment. Similarly, a potential college student will make enrollment decisions regarding access, choice, and persistence based on an evaluation of the benefits and costs of the alternatives under consideration. To understand the enrollment decision-making context in which student loan costs of financing and risk occur, we first describe the economic investment model.

The Investment Model of Student Enrollment Behavior

A potential college student will pursue higher educational studies if the net benefits of attending college exceed the net benefits of alternative pursuits, such as immediate employment, military enlistment, etc. Net benefits are gross benefits minus costs. Both benefits and costs are discounted to present values at rates appropriate to the potential student. Benefits include both short term consumption benefits and long term investment returns. Costs include direct, indirect, opportunity, risk, and financing costs of attending college.

Intrinsic to this economic model of individual behavior are several axioms. Foremost among these are that individuals make decisions and take actions to enhance their private welfare. Second, pursuit of college enrollment is a matter of individual choice. And third, actual enrollment is contingent upon the availability of capacity in higher education that will accommodate the potential student's aspirations at the time, in the place, and in the form of programs and other services sought by the student.

Benefit-cost investment studies of the enrollment behavior of economically marginal students grew out of separate lines of inquiry pursued by economists. One line of inquiry examined price effects on student enrollment behavior; the other line examined labor market effects. The two approaches were then combined into a more powerful benefit-cost model.

However successful these merged lines of inquiry have been at explaining historical fluctuations in aggregate college enrollment behavior, the explanatory power of the economic investment model of student demand for higher education is dependent on the specification of the model's details including both benefits and costs. The benefits of higher education have been reported by others and are not the focus of this paper. Rather, we are concerned here with the specification of college attendance costs generally, and more specifically the risk and financing costs of educational loans when loans are used to finance collegiate study.

For the specific issue we are examining here, student loans, we focus on costs. Loans are considerably more costly than grants of a similar amount when used to finance college attendance costs. Loans are also more risky than grants because one must also consider the chances of earning greater income from a college education to be able to repay the educational loan. For many Americans, the greatly increased monetary returns on a college education since 1980 have justified the use of this more expensive aid form.

The above generalization is useful in examining enrollment decisions for aggregate enrollments. However, it tends to break down for certain subgroups within the population. Though the principles of economic investment still hold, the unique characteristics of vulnerable populations give different weights to benefit-cost factors involved in college enrollment decisions. For example, the substitution of loans for grants reduces the net benefits of attending college for those who take out student loans. This reduction occurs because financing and risk costs are added to the financial aid applicant's costs of college attendance, and no financial aid is provided to cover these costs. The greater the reliance on loans to finance college attendance costs, the greater the reduction in net benefits of college attendance.

Risk Costs

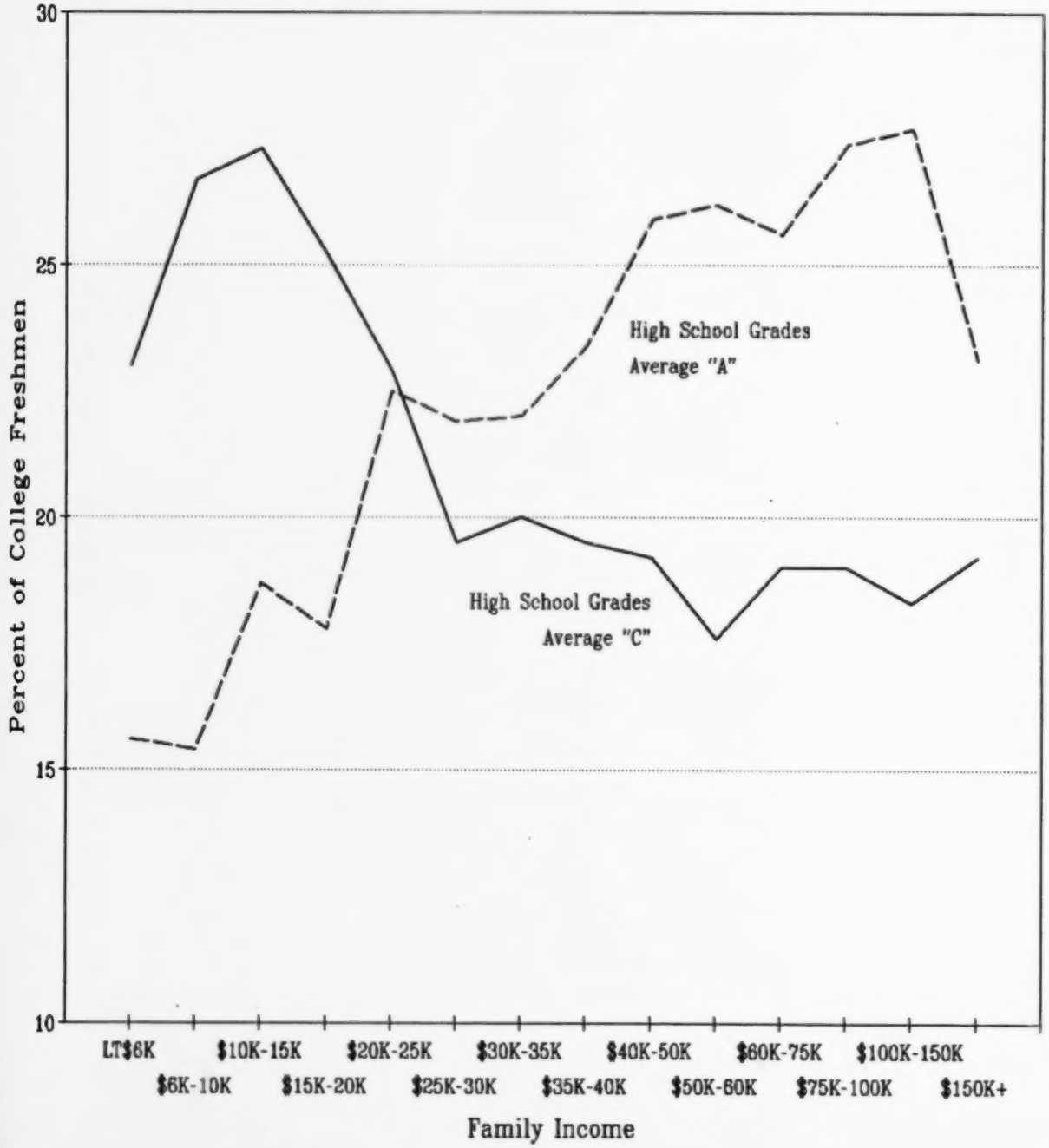
Abundant previous research has demonstrated strong, positive relationship between high school grades, test scores, and success in college (both grades and graduation). Those with lower high school grades and/or test scores are less likely to be successful in college. Similarly, those with lower high school grades and/or test scores are more likely to be from lower income backgrounds, require financial aid to help finance college attendance costs, and be required to take out educational loans as a part of that student aid package. In this manner, lower income college students incur financing and risk costs that diminish their net benefits of college attendance.

In the following charts, we illustrate the relationship between family income of young people and their high school grades and ACT Assessment test scores. The high school grade data are from the National College Freshmen Norms survey of first-time, full-time college freshmen for the fall of 1986. As shown in Figure 16, the proportion of college freshmen reporting high school grades of "A" increases from about 16 percent of those from family incomes below $10,000, to about 27 percent of those from families with incomes between $75,000 and $150,000 per year. Concurrently, the proportion of college freshmen reporting high school grade averages of "C" declined from about 27 percent of those with incomes of $6,000 to $15,000 per year to less than 20 percent with incomes above $25,000 per year.

Similarly, average ACT Assessment scores are strongly related to family income. As shown in Table 2, average ACT Composite scores in 1989 ranged from 14.2 for high school seniors from family incomes of less than $6,000 per year to 20.7 for high school seniors from families with incomes of $60,000 and over. Each $10,000 increase in family income adds about 1 standard score point to a student's ACT Composite score, on average.

Clearly, students from poorer family backgrounds approach higher education with lower probabilities of success (as measured by high school grades and ACT Assessment test scores) than do their more financially comfortable classmates. This increased risk adds to their college attendance costs when there is doubt about chances of graduating and earning increased incomes to be able to repay their student loans. Loans, uniquely, add this risk factor to the financially needy student's evaluation of the net benefits of college attendance. Grants impose no such consideration.

FIGURE 16
HIGH SCHOOL GRADES BY FAMILY INCOME FOR COLLEGE FRESHMEN 1986



Source: National College Freshmen Norms, CIRP.

TABLE 2
Mean ACT Composite Score by Family Income for College Bound High School Seniors 1986 to 1989

Family Income	1986	1987	1988	1989
Less than $6,000	14.6	14.7	14.6	14.2
$6,000-11,999	16.4	16.4	16.3	16.0
$12,000-17,999	17.7	17.6	17.5	17.2
$18,000-23,999	18.4	18.2	18.1	17.8
$24,000-29,999	18.9	18.7	18.6	18.4
$30,000-35,999	19.3	19.1	19.0	18.8
$36,000-41,999	19.7	19.5	19.4	19.2
$42,000-49,999	20.3	20.0	19.9	19.7
$50,000-59,999	20.6	20.3	20.2	20.1
$60,000 and over	20.9	20.7	20.8	20.7
Total	18.8	18.7	18.7	18.6

Source: The American College Testing Program.

Financing Costs

Compared to grants, loans add three financing costs to the set of college attendance costs faced by aid recipients: the loan principal, origination and insurance fees, and interest on the unpaid balance of principal and fees following graduation. The addition of these costs reduces the net benefits of college attendance for those who use loans to help finance their college educations. The more heavily loans are used, the greater is the resulting reduction in net benefits of college attendance to the prospective student.

We have calculated the financing costs of Stafford Student Loans in Table 3 on the following page. For the sake of illustration, let us assume that an individual has taken out a $2,000 loan, corresponding to the top line in the table. Before the borrower receives the loan, first $100 is deducted for the 5 percent origination fee paid to the federal government; then another 2 percent is deducted for the insurance fee paid to the guarantee company authorized by the federal government to act as its agent. (The loan guarantee company may charge up to a 3 percent insurance fee at this time.) The borrower, therefore, receives $1,860 of his or her $2,000 loan.

Following departure from college--graduation or dropping out--the student begins repayment of the loan. If the student chooses to repay the loan in two years, he or she must repay the $1,860 they received, plus the $140 in fees they were charged, plus $171 in interest charges on the unpaid balance of the original $2,000 face amount of the loan. This interest charge represents an effective annual percentage rate of 15.3 percent based on the amount of the loan received by the student to finance college costs. If the student chooses to repay this loan over 10 years, the student repays the $1,860 received, plus $140 in fees, plus $1011 in interest. These interest charges are 8 percent

TABLE 3
Financing Costs of Stafford Student Loans

Amount Borrowed	Less 5% Origination Fee	Less 2% Insurance Fee(a)	Amount Received	2 Years			4 Years			6 Years			10 Years		
				Monthly Payment	Effect. A.P.R.*	Total Repaid	Monthly Payment	Effect. A.P.R.*	Total Repaid	Monthly Payment	Effect. A.P.R.*	Total Repaid	Monthly Payment	Effect. A.P.R.*	Total Repaid
$2000	$100	$40	$1860	$90.45	15.3%	$ 2171	$48.83	11.8%	$ 2344	$35.07/ 35.77	10.9%	$ 2542	$24.27/ 25.63	10.5%	$ 3011
4000	200	80	3720	180.90	15.3	4342	97.66	11.8	4688	70.14/ 71.54	10.9	5084	48.54/ 51.26	10.5	6022
5250(b)	263	105	4882	237.43	15.3	5699	128.18	11.8	6153	92.06/ 93.90	10.9	6673	63.71/ 67.28	10.5	7904
6000	300	120	5580	271.35	15.3	6513	146.49	11.8	7032	105.21/ 107.31	10.9	7626	72.81/ 76.89	10.5	9033
8000	400	160	7440	361.80	15.3	8684	195.32	11.8	9376	140.28/ 143.08	10.9	10,168	97.08/ 102.52	10.5	12,044
10,000	500	200	9300	452.25	15.3	10,855	244.15	11.8	11,720	175.35/ 178.85	10.9	12,710	121.35/ 128.15	10.5	15,055
12,000	600	240	11,160	542.70	15.3	13,026	292.98	11.8	14,064	210.42/ 214.62	10.9	15,252	145.62/ 153.78	10.5	18,066
13,250(c)	663	265	12,322	599.23	15.3	14,383	323.50	11.8	15,529	232.34/ 236.98	10.9	16,841	160.79/ 169.80	10.5	19,948
14,000	700	280	13,020	633.15	15.3	15,197	341.81	11.8	16,408	245.49/ 250.39	10.9	17,794	169.89/ 179.41	10.5	21,077
16,000	800	320	14,880	723.60	15.3	17,368	390.64	11.8	18,752	280.56/ 286.16	10.9	20,336	194.16/ 205.04	10.5	24,088
17,250(d)	863	345	16,042	780.13	15.3	18,725	421.16	11.8	20,217	302.48/ 308.52	10.9	21,925	209.33/ 221.06	10.5	25,970

*Effective Annual Percentage Rate: Calculated on GSL amount received.
(a) May be up to 3 percent.
(b) Sum of $2625 limit for first two years of college.
(c) Sum of $2625 limit for each of first two years and $4000 for each of second two years of college.
(d) Maximum amount for undergraduate study.

for the first four years of repayment, and 10 percent on the remaining six years. The effective annual percentage rate is 10.5 percent calculated on the amount of the loan received by the student. These interest rate calculations do not include the loss of income tax deductibility for interest on student loans as a result of the 1986 tax reforms.

This example illustrates how student loans diminish the net value of higher education to students who use loans to finance collegiate study. Loans diminish value both by introducing considerations of risk and by adding financing costs to college attendance. For students who use loans, net benefits are reduced, and the more loans are used the greater the reduction in net benefits of college attendance.

Can we determine the types of potential college students for which these characteristics of loans are likely to pose problems for participation in higher education? In the following section we explore data from a variety of sources that help identify which subgroups of the population are most likely to have problems with the risk and financing aspects of student loans to finance higher educations.

IV. Attitudes Regarding Educational Finance

In this section we analyze survey data from three sources to determine how different groups of Americans view higher education as an investment, and how loans and specific characteristics of loans--risk, financing costs--influence those perceptions. Among the differing views that Americans have of loans, we are especially interested in this section in how subgroups that have not fared well in higher education during the conversion of federal student aid from grants to loans view higher education as an investment and the use of loans to finance participation in higher education.

This analysis of attitudinal data suggests that attitudes reflect likely behaviors. This linkage has been studied by social psychologists for many decades. The more recent literature in the study of attitude-behavior relationships has focused on the conditions under which the link is strongest. When individuals are confronted with a decision, their attitudes are most closely correlated with the ultimate behavior. The following analyses do not have this condition present and are thus imperfect predictors of human behavior. The particular advantage of the survey data, however, is its noninvasive character. The higher educational enrollment behavior of individuals has not been altered for the purpose of research. Rather, human behavior is estimated by inquiring about attitudes. (For further comment on this limitation of research on human subjects, see the author's End note on Public Policy Analysis at the conclusion of the text.)

Higher Education as an Investment

Recently, the Council for the Advancement and Support of Education (CASE) commissioned the Gallup Organization to ask a representative sample of 1253 American adults a series of questions about higher education. Among the attitudes and perceptions surveyed were assessment of the worth of a college education and of the equality of opportunities for a college education. Results were reported along demographic lines of particular interest here: family income, race, gender, educational attainment.

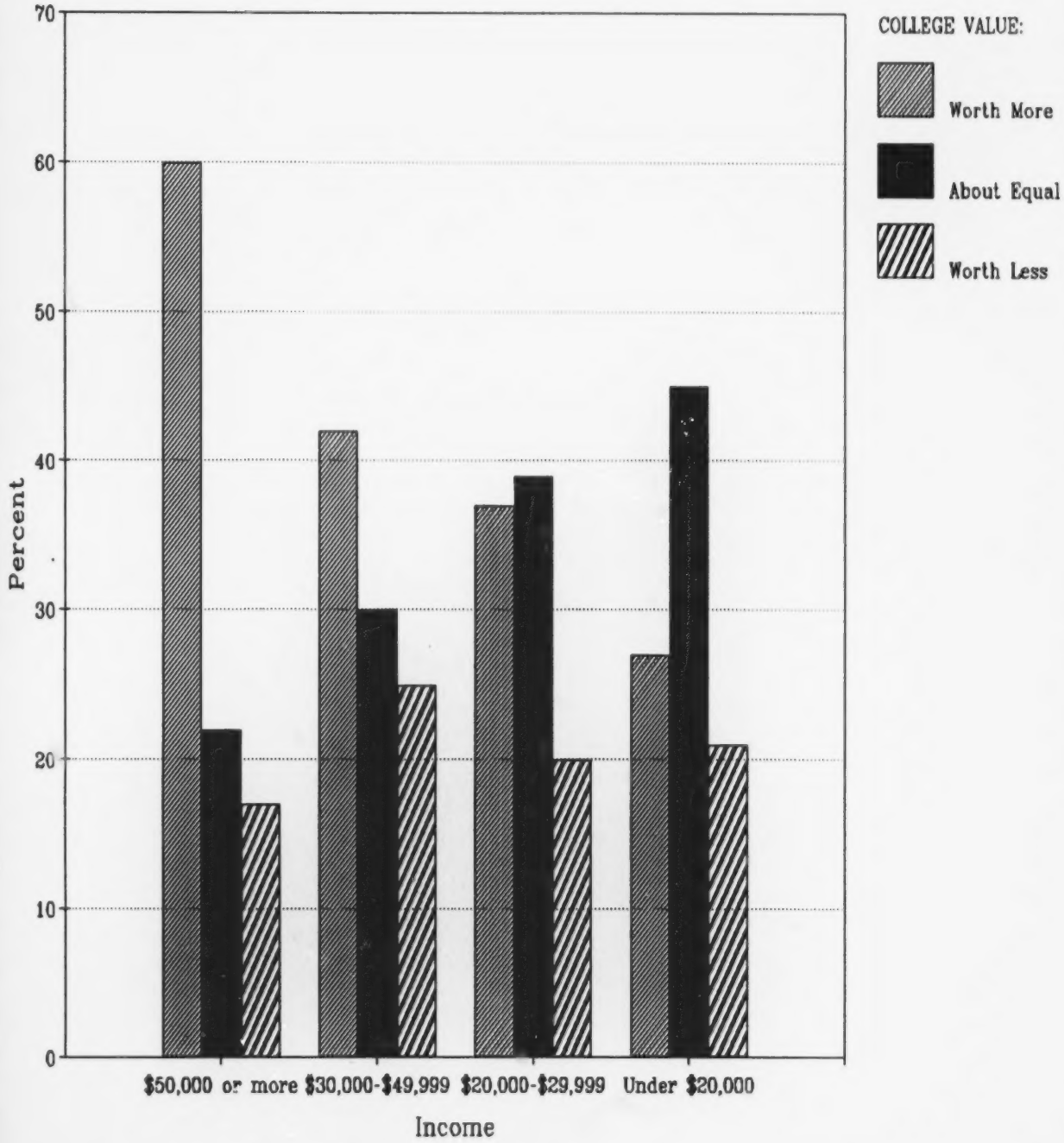
The Gallup survey asked this question:

> **In general, how do you feel about the worth of a college education today? Do you think the overall value most college graduates get back in their lifetime is worth more than they paid for attending college, is worth less than they pay for attending college, or that the value is about equal to what they pay?**

Because this question directly considers benefits and costs of higher education as an investment decision, the results are worth examining in demographic detail.

Adults from higher income families were considerably more likely to report that college was worth more than its cost. Sixty percent of those from family incomes of more than $50,000 per year felt college was worth more than its cost, compared to 27 percent of those from families with incomes below $20,000 per year. These data are shown in Figure 17.

FIGURE 17
VALUE OF A COLLEGE EDUCATION TODAY
BY INCOME
1989



Source: Council for Advancement and Support of Education

Similarly, adults who were college graduates were considerably more likely than people with lesser levels of educational attainment to believe that college was worth more than it cost. Whites were more likely than nonwhites to believe this (Figure 18), as were males compared to females, Republicans compared to Democrats or Independents, those who lived near a college compared to those who did not, and those who rated the performance of colleges highly to those who did not. (Appendix A of this paper contains more detailed information from the CASE survey.)

The Gallup survey for CASE further pursues central concerns of this paper further by probing respondents' perceptions about the accessibility of higher education for racial minorities. The question was asked of survey participants:

> **Do you think that all high school graduates--regardless of race--have equal access to a college education, or do you think a person's race makes it harder to gain access to a college education?**

The results of this survey question are presented in Appendix B. Figure 19, in particular, shows the difference between responses of whites and blacks to the above question. All groups show roughly similar response patterns except by race: 42 percent of all whites said that race made college access harder, compared to 59 percent for nonwhites. Clearly, minorities do not share the perception held by many whites that race is not a relevant factor in college access.

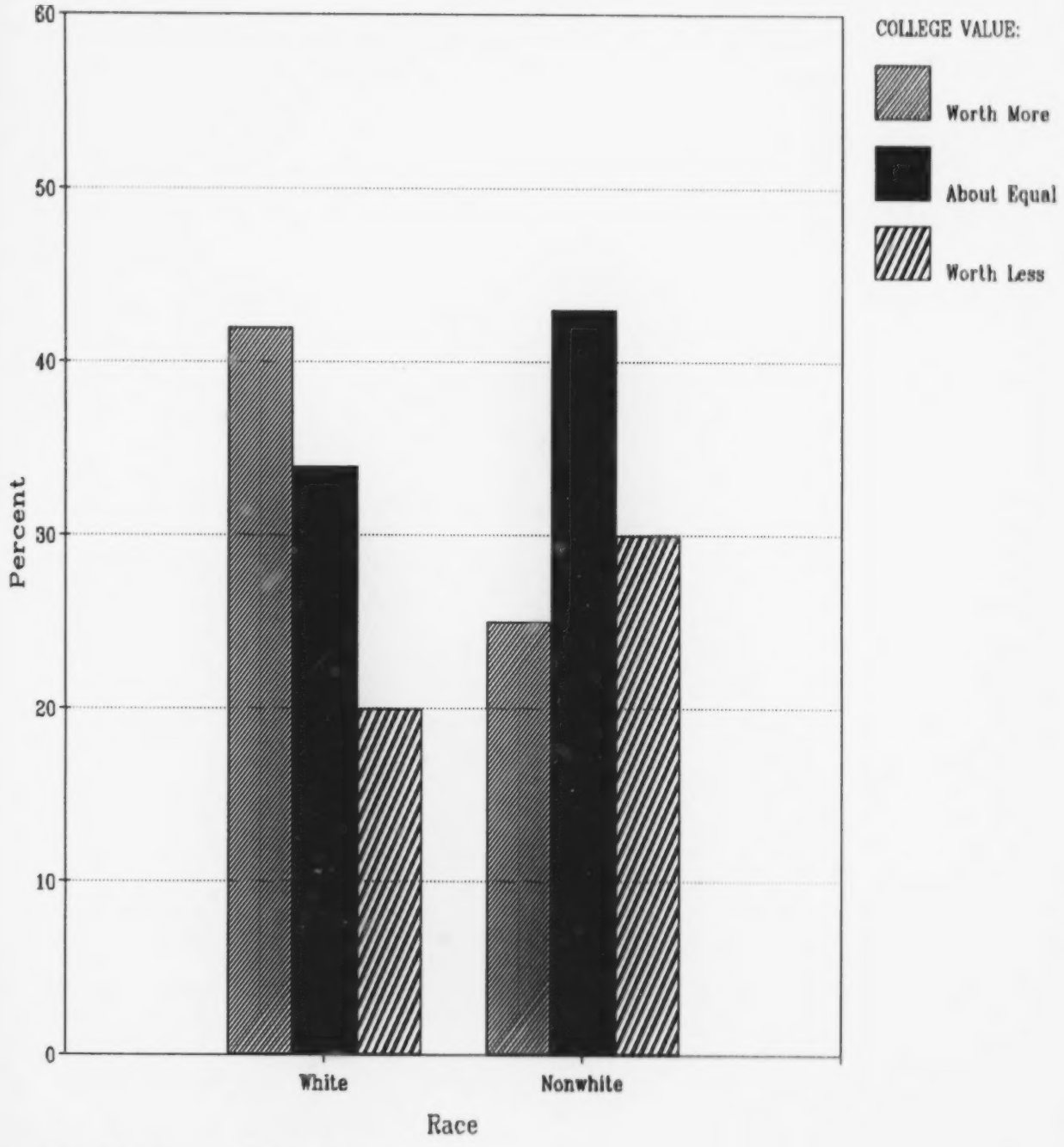
Concerns About Financing College

Money magazine also surveyed a nationwide sample of 2370 adult Americans in 1988 to determine, among other things, their areas of greatest financial concerns. The list of possible responses included food, housing, clothing, education/college, child care, medical costs, job loss, retirement savings, and care for aged parents. Responses were tabulated by a variety of demographic characteristics of the respondents important to our study here.

Among all respondents, 28 percent reported that they worried about paying for education/college. This percentage was higher for men (30%), for people 35 to 49 years old (46%), and for people with household incomes of more than $50,000 per year (45%).

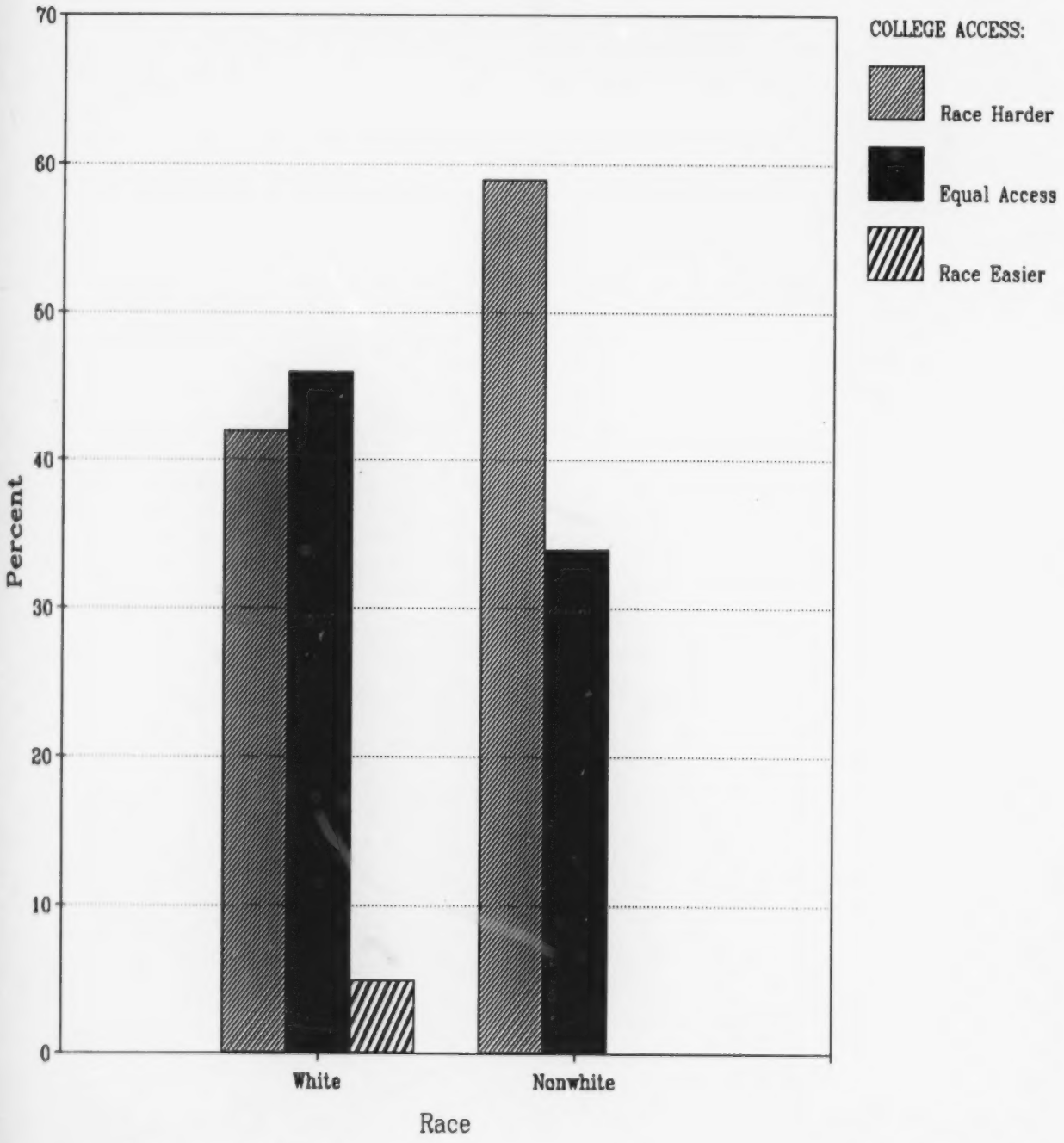
The concern for paying for education/college, unlike most financial areas, increases with income. Financial worries tend to decrease with income for medical costs, housing, food, clothing, and child care. But they increase as household income increases for retirement, education/college, and concern for care of aged parents. Among survey participants with incomes below $15,000 per year, college education ranked sixth among the nine financial areas listed. However, where incomes were over $50,000, education/college ranked second. These data are shown in Figure 20.

FIGURE 18
VALUE OF A COLLEGE EDUCATION TODAY
BY RACE
1989



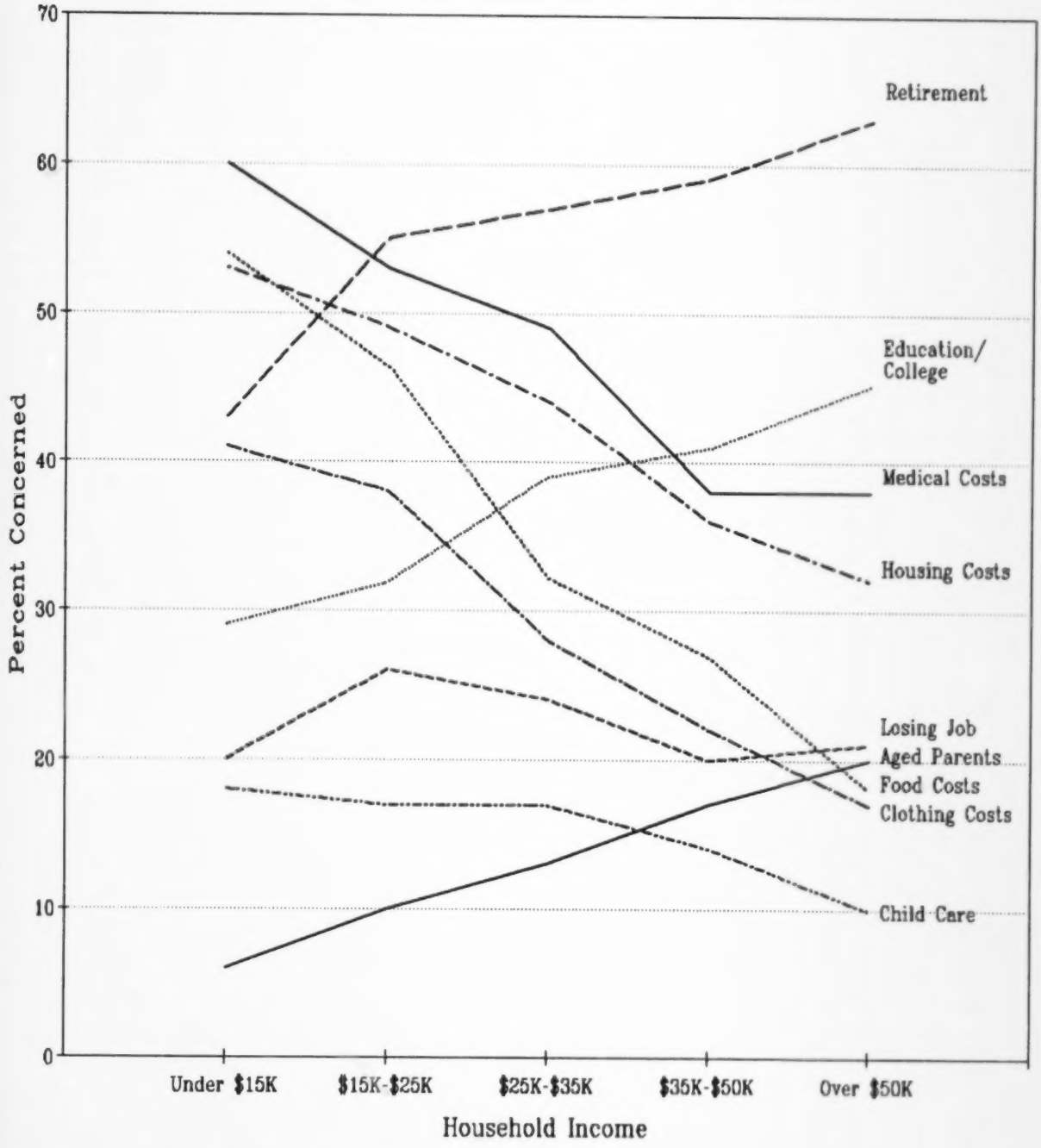
Source: Council for Advancement and Support of Education

FIGURE 19
ACCESS TO A COLLEGE EDUCATION TODAY
BY RACE
1989



Source: Council for Advancement and Support of Education

FIGURE 20
FINANCIAL AREA WORRIES
BY HOUSEHOLD INCOME
1988



Source: Americans and Their Money, Money Magazine.

Attitudes Toward Educational Loans

Several studies of consumer finances that address willingness to borrow for educational purposes were conducted by the Federal Reserve System between 1959 and 1983. These surveys, like the two preceding surveys, employed national samples of the adult population and compiled results in demographic dimensions of the population of interest in this study.

One question we have focused on is willingness to borrow for various purposes, among them education. The related question this survey asked participants:

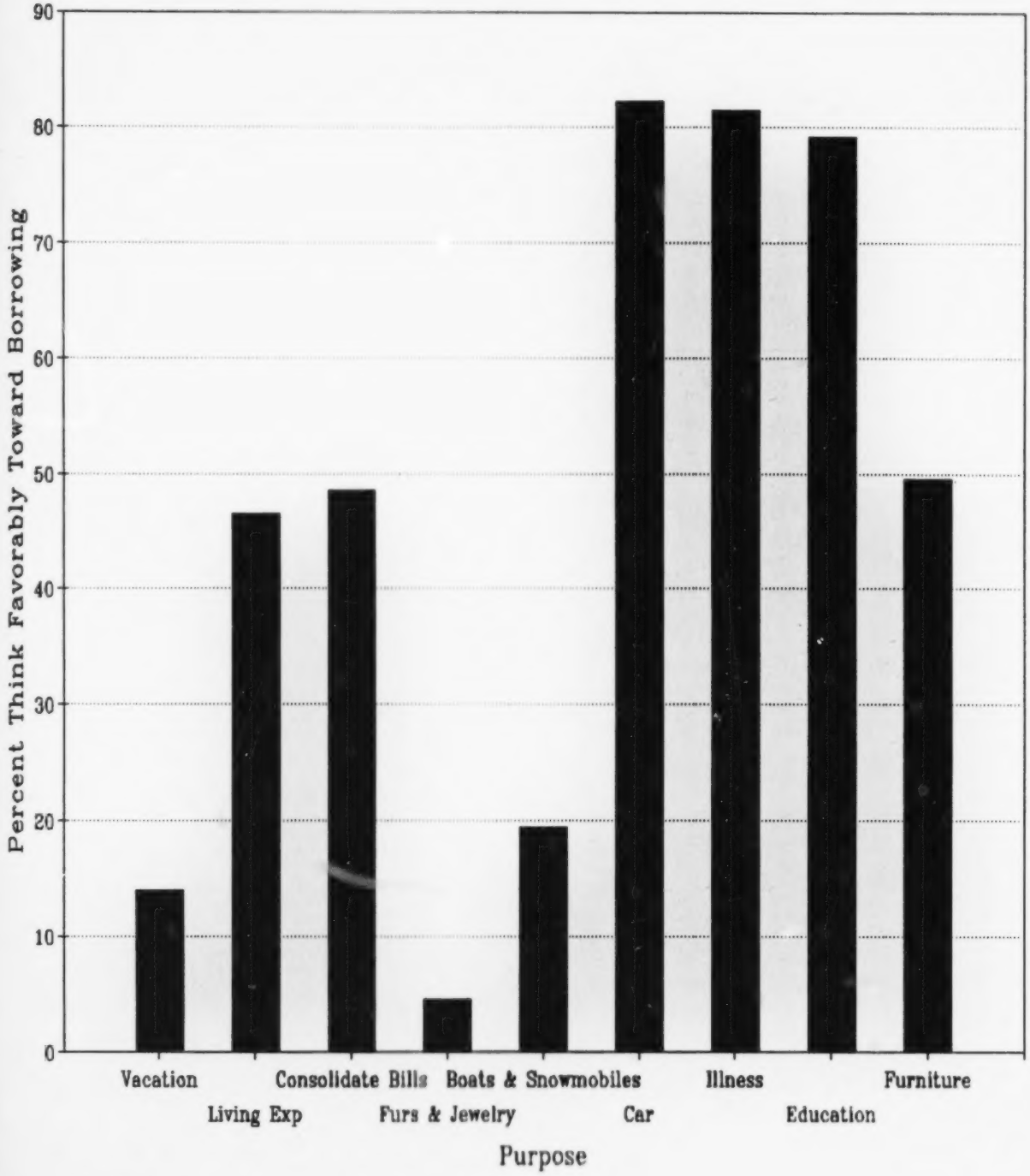
> **People have many different reasons for borrowing money which they pay back over a period of time. Would you say that it is all right for someone like yourself to borrow money:**
> **for expenses of a vacation trip?**
> **for living expenses when income is cut?**
> **to consolidate bills which have piled up?**
> **to finance the purchase of a fur coat or jewelry?**
> **to finance boats, snowmobiles and other hobby equipment?**
> **to finance the purchase of a car?**
> **for expenses due to an illness?**
> **to finance educational expenses?**
> **to finance the purchase of furniture?**

In 1983, the most recent survey year, nearly 80 percent of the American adults surveyed looked favorably on borrowing to finance educational expenses. Education, along with buying a car and to finance expenses of an illness, were the most worthy reasons for borrowing money. (See Figure 21.) This finding is fairly consistent over the years of the Federal Reserve System surveys, from 1959 through 1983, except for a slight decline in willingness to borrow for education since 1970.

For the purposes in this paper, we are especially interested in willingness to borrow to finance educational expenses by income. Figure 22 illustrates the proportion of adult Americans willing to borrow for education by income in 1983. The pattern is striking. Below about $20,000 of income, willingness to borrow for education drops off sharply. In the $4,000 to $6,000 income range, for example, 62 percent think favorably, compared to 85 to 90 percent for people with incomes of more than $20,000 per year. This pattern is similar to results from the 1977 survey.

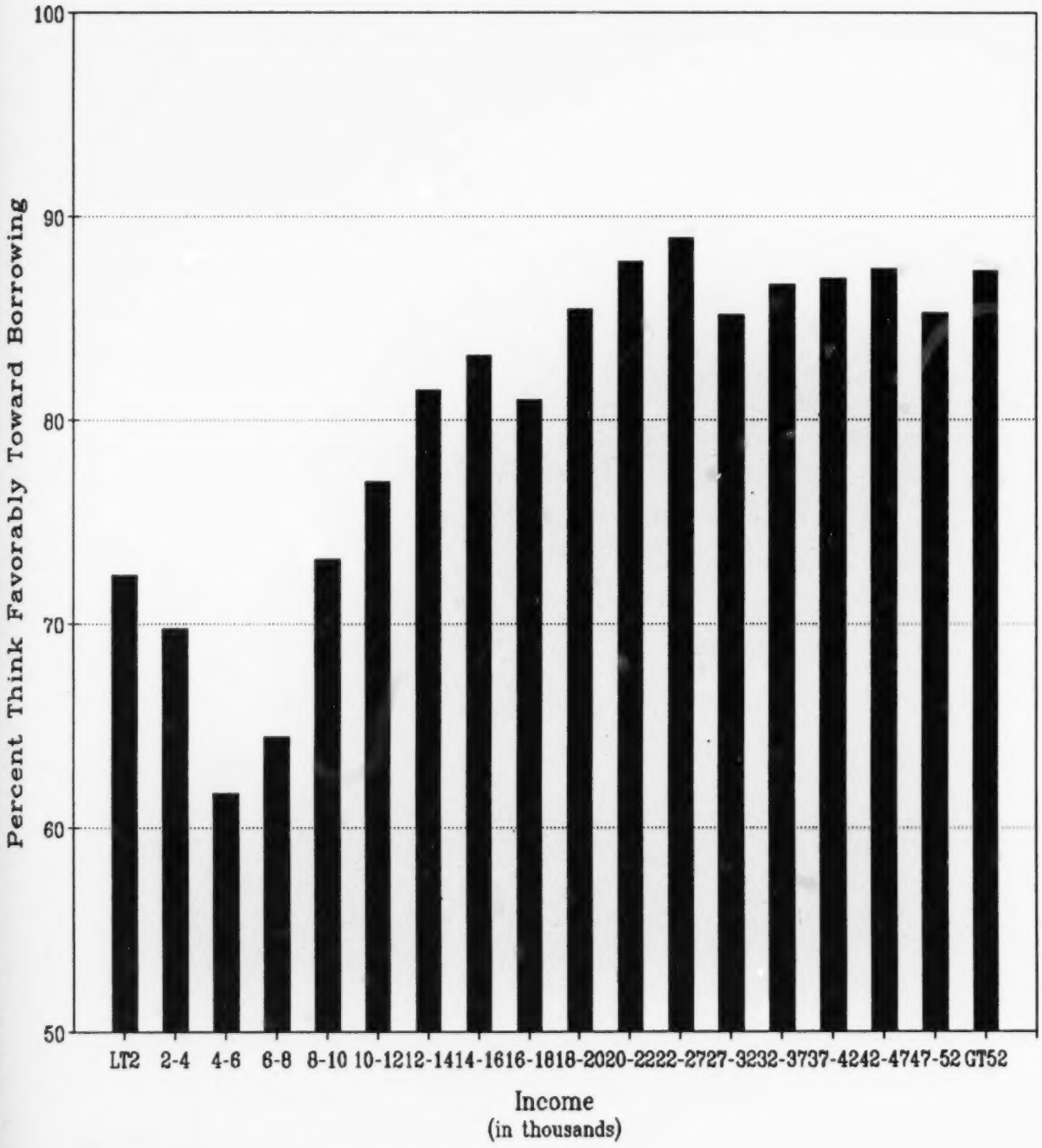
When adjustments to income are made for inflation, we can examine trends in favorable attitudes toward borrowing to finance education for the years 1959, 1967, 1977, and 1983. Figure 23 plots these data in constant 1983 dollars. Between the end points, the proportion of the population that indicated incomes below about $25,500 per year and a favorable attitude toward educational borrowing increased by 8 percent. This compares to an increase of 5 percent among those with incomes of $25,500 to $34,000, and an increase of 4 percent for those with incomes of more than $34,000 per year.

FIGURE 21
WILLINGNESS TO BORROW FOR VARIOUS PURPOSES
1983



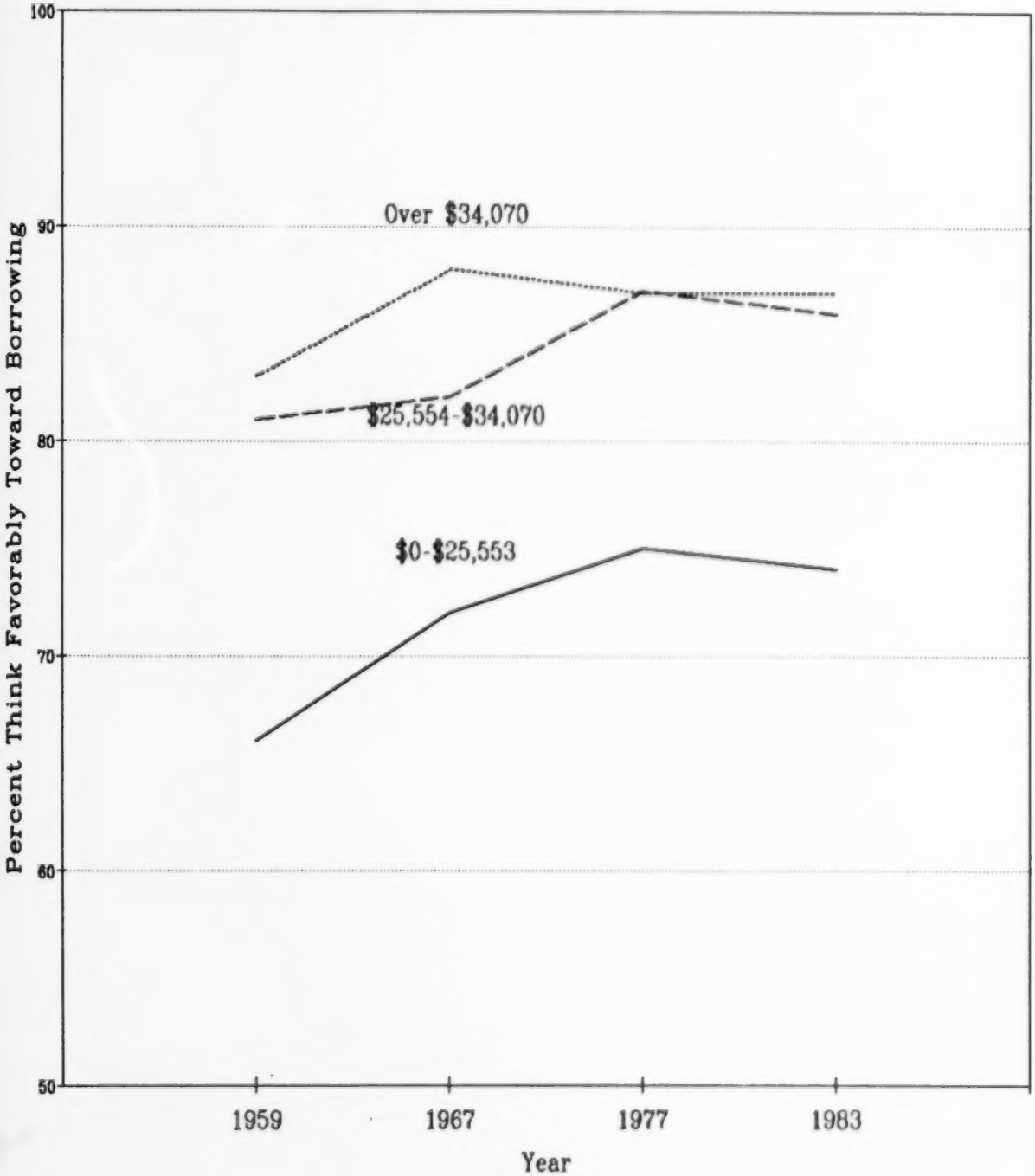
Source: 1983 Survey of Consumer Finances, Federal Reserve System

FIGURE 22
WILLINGNESS TO BORROW FOR EDUCATIONAL EXPENSES BY INCOME 1983



Source: Survey of Consumer Finances, Federal Reserve System

FIGURE 23
WILLINGNESS TO BORROW FOR EDUCATIONAL EXPENSES BY HOUSEHOLD INCOME INTERVALS 1959, 1967, 1977 AND 1983



The Federal Reserve System data also identify other populations less likely to view borrowing to finance educational expenses favorably. Generally, young people feel better about borrowing for education than older people, greater educational attainment leads to more favorable attitudes toward borrowing, Asians are more likely and Hispanics are less likely than whites to have favorable attitudes, professionals are more likely than laborers, and men more likely than women to view educational loans favorably.

Clearly, Americans characterized in different ways hold differing views toward loans to finance educational expenses. Not all Americans share the dominant view that loans would be a good idea for someone like themselves. Many of the characteristics of those who do not view educational loans favorably are similar to the characteristics of the population that financial aid programs were designed to serve.

Attitudes Toward Risk

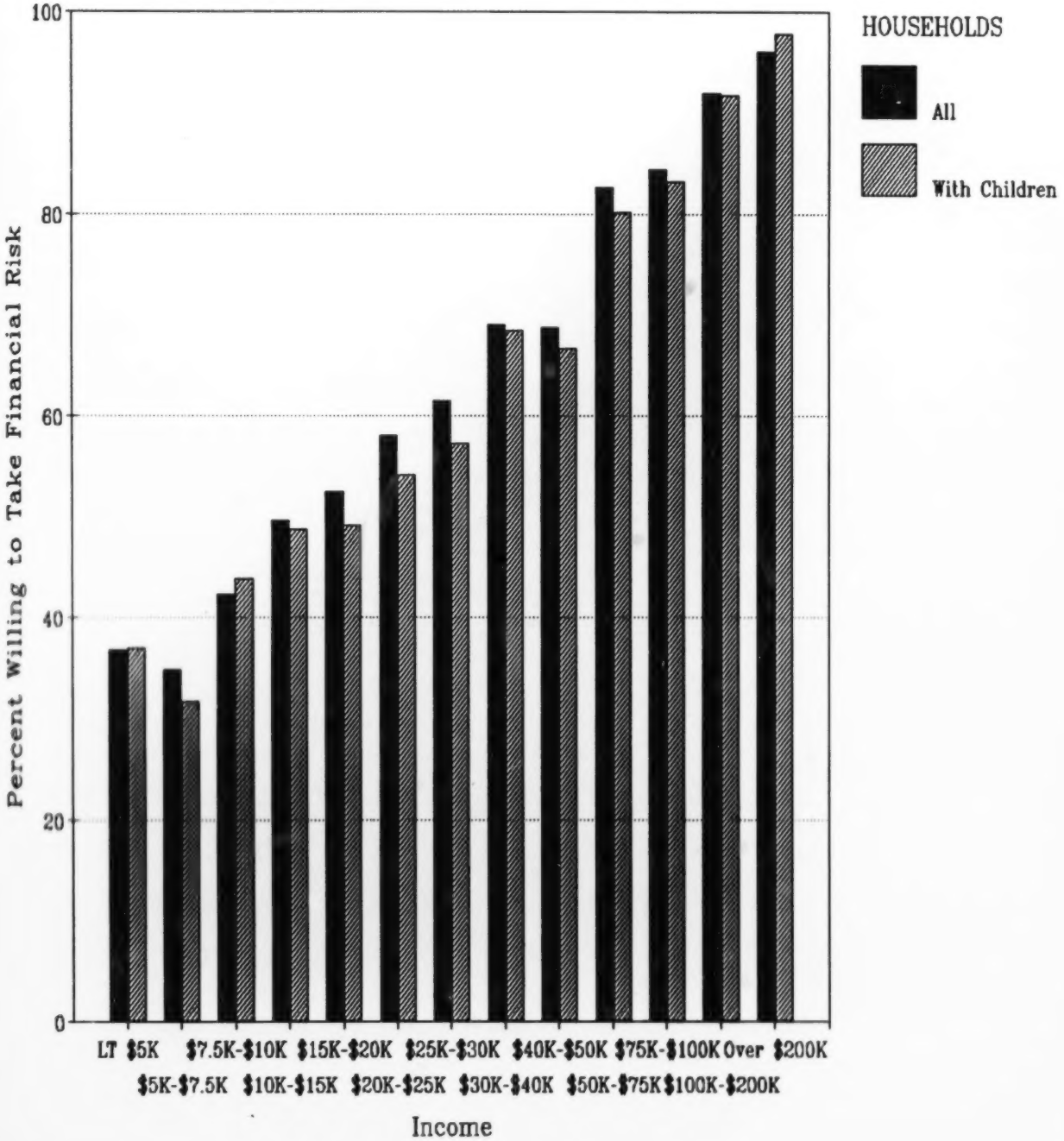
Because a fundamental characteristic of borrowing is the borrower's risk that he or she may not be able to repay the debt, we have examined attitudes toward risk through the Federal Reserve System surveys of consumer finances. Our analysis of these data parallels the previous examination of attitudes toward borrowing to finance educational expenses, with two exceptions. First, we have extended our analysis in this case to examine the risk-taking attitudes of households with children and all households. Second, the available data do not permit an examination of the question of risk taking with respect to educational investments. A summary of our findings follows.

Income. The proportion of heads of households willing to take financial risk for savings and investments is shown in Figure 24 for 1983. For families with children and all families, willingness to take financial risks is clearly and strongly related to income. Where the income of the head of the household is less than $7,500 per year (in 1983), about 30 to 35 percent of survey participants reported a willingness to take at least some financial risk with their savings and investments. This proportion increased with income to about 95 percent of those with incomes of more than $200,000 per year. The pattern for families with children is very similar to the pattern for all families except that families with children were slightly more averse to risk.

Net worth. A somewhat similar pattern emerges from data describing willingness to take risk by the net worth of the head of the family. Figure 25 shows this data for 1983. The proportion of household heads willing to take financial risks with savings and investments increases from about 40 percent for those with zero to $5,000 of net worth, to more than 80 percent where net worth exceeds a quarter of a million dollars.

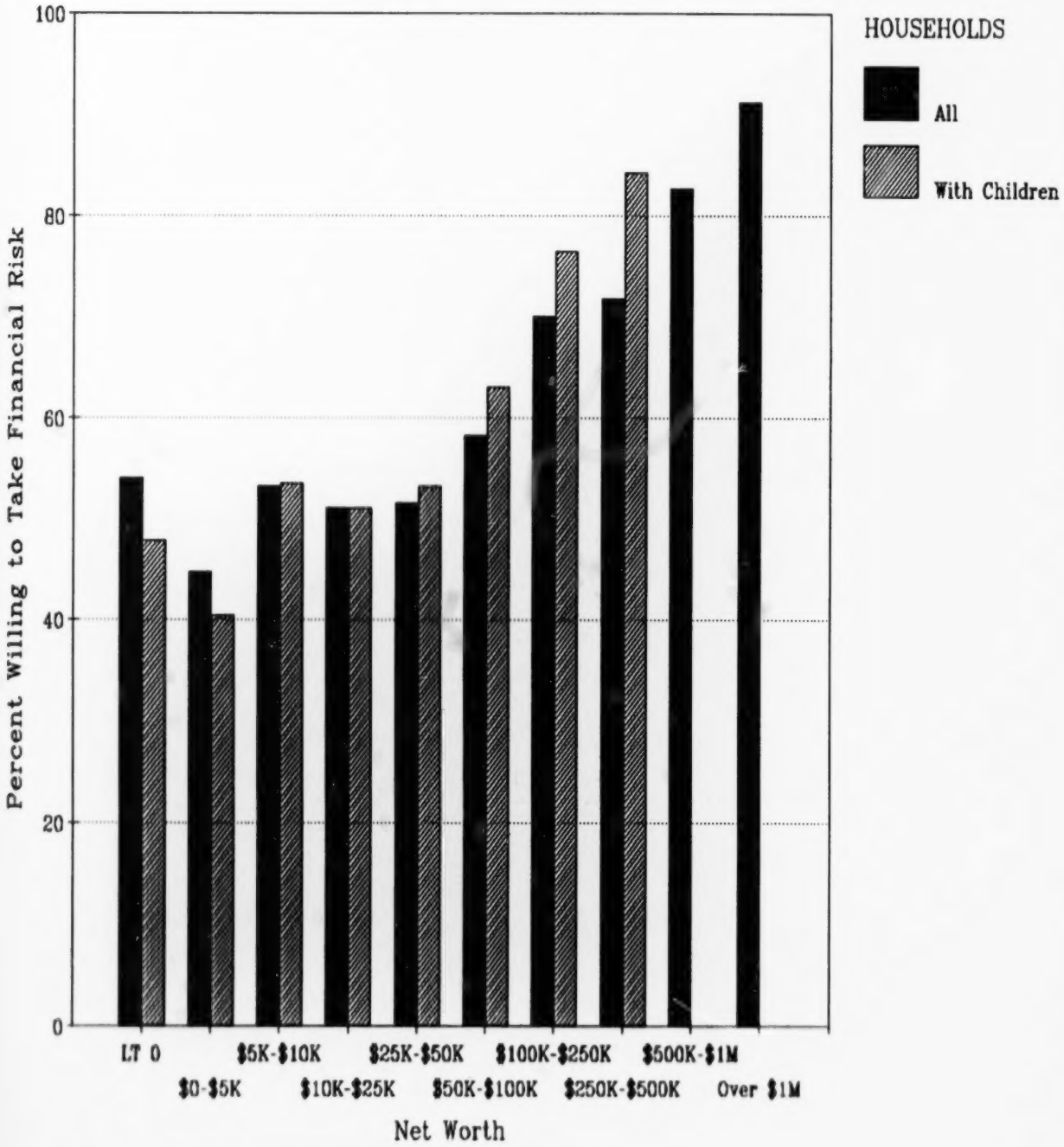
Educational attainment. Willingness to take financial risk is also strongly related to educational attainment of the household head, as shown in Figure 26. Where the head has 0 to 8 years of education and there are children present, less than 40 percent would take on risk. However, where the head is a college graduate, more than 70 percent would be willing to take financial risk.

FIGURE 24
ATTITUDE TOWARDS RISK FOR SAVINGS AND INVESTMENTS BY INCOME OF HEAD OF HOUSEHOLD 1983



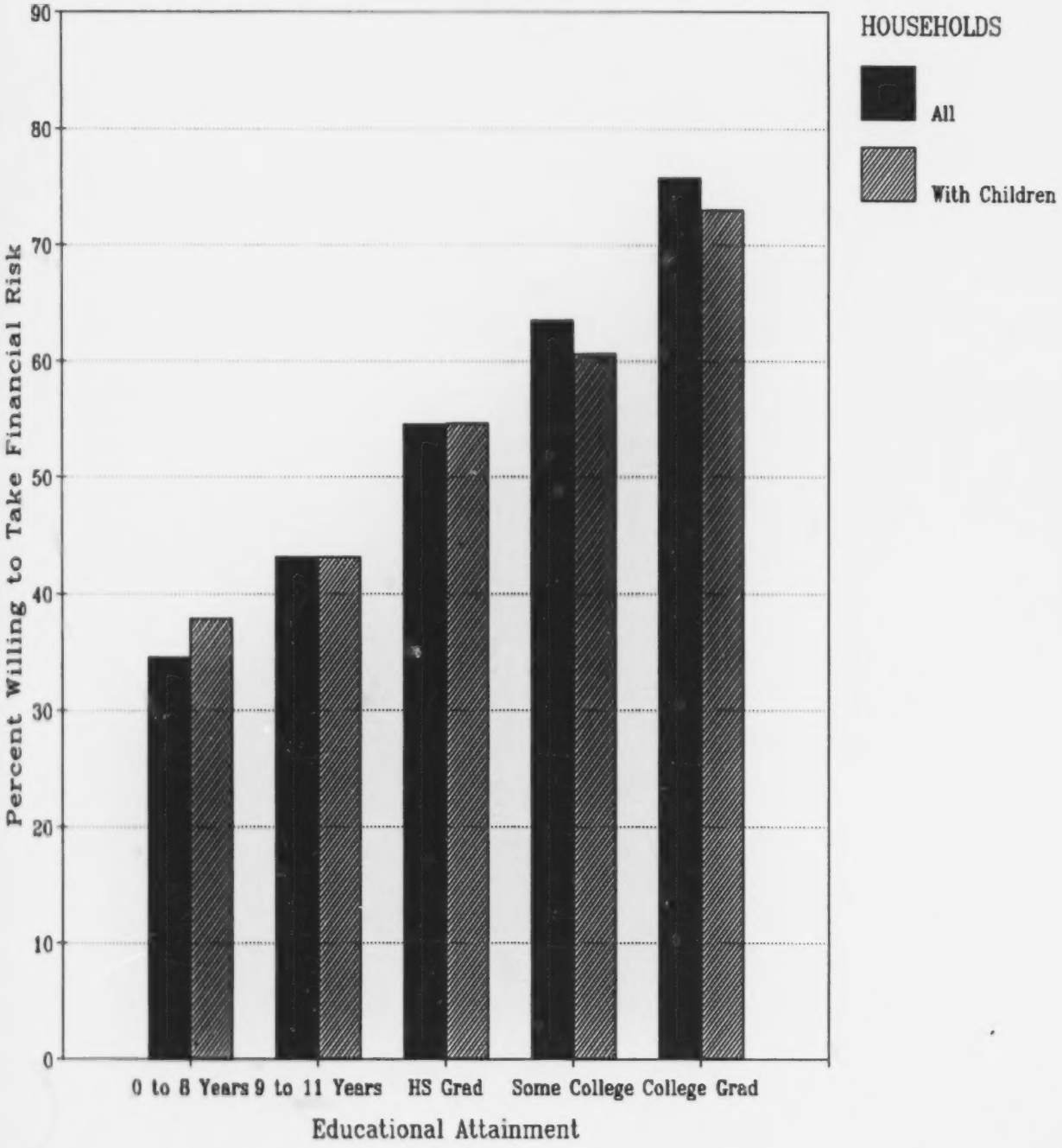
Survey of Consumer Finances, Federal Reserve System.

FIGURE 25
ATTITUDE TOWARDS RISK FOR SAVINGS AND INVESTMENTS BY NET WORTH OF HEAD OF HOUSEHOLD 1983



Survey of Consumer Finances, Federal Reserve System.

FIGURE 26
ATTITUDE TOWARDS RISK FOR SAVINGS AND INVESTMENTS
BY EDUCATIONAL ATTAINMENT OF HEAD OF HOUSEHOLD
1983



Survey of Consumer Finances, Federal Reserve System.

Age. Within families with children, willingness to take financial risk is related to age of head in a nonlinear fashion. Young heads--presumably with young children--are considerably less willing to take risk than are heads most likely to have college age children. Also, young household heads with children are considerably less willing to take on risk than are all families with similar aged heads. These data are shown in Figure 27.

These data suggest a somewhat greater reluctance to assume risk among families with children than among all families. The presence of children appears to be related to risk taking attitudes. But more importantly, the children targeted for need-tested financial aid appear to be concentrated in families least likely to be willing to assume financial risk. These households are characterized by low income, low net worth, and lack of educational attainment among the parents. Some of these characteristics--such as income and net worth--may be partially offset in a maturing family where income and assets are likely to be at a peak about the time the children have reached college age.

Willingness to Save for Children's Education

Presumably, financially comfortable families are better able to save for the college educations of their children than are poor families. Moreover, as was shown in Figure 20, worries about the cost of education/college increase with income. But the question remains: Where in the financial scheme of the family does the importance of saving for college rank? We have examined this question with the Federal Reserve System data.

In Figure 28 we show the proportions of families with children at different family income levels that identify their children's educations as their first or second most important reason for saving. The patterns in the data are somewhat erratic, and in important respects not particularly satisfying. However, the following findings are warranted by the data.

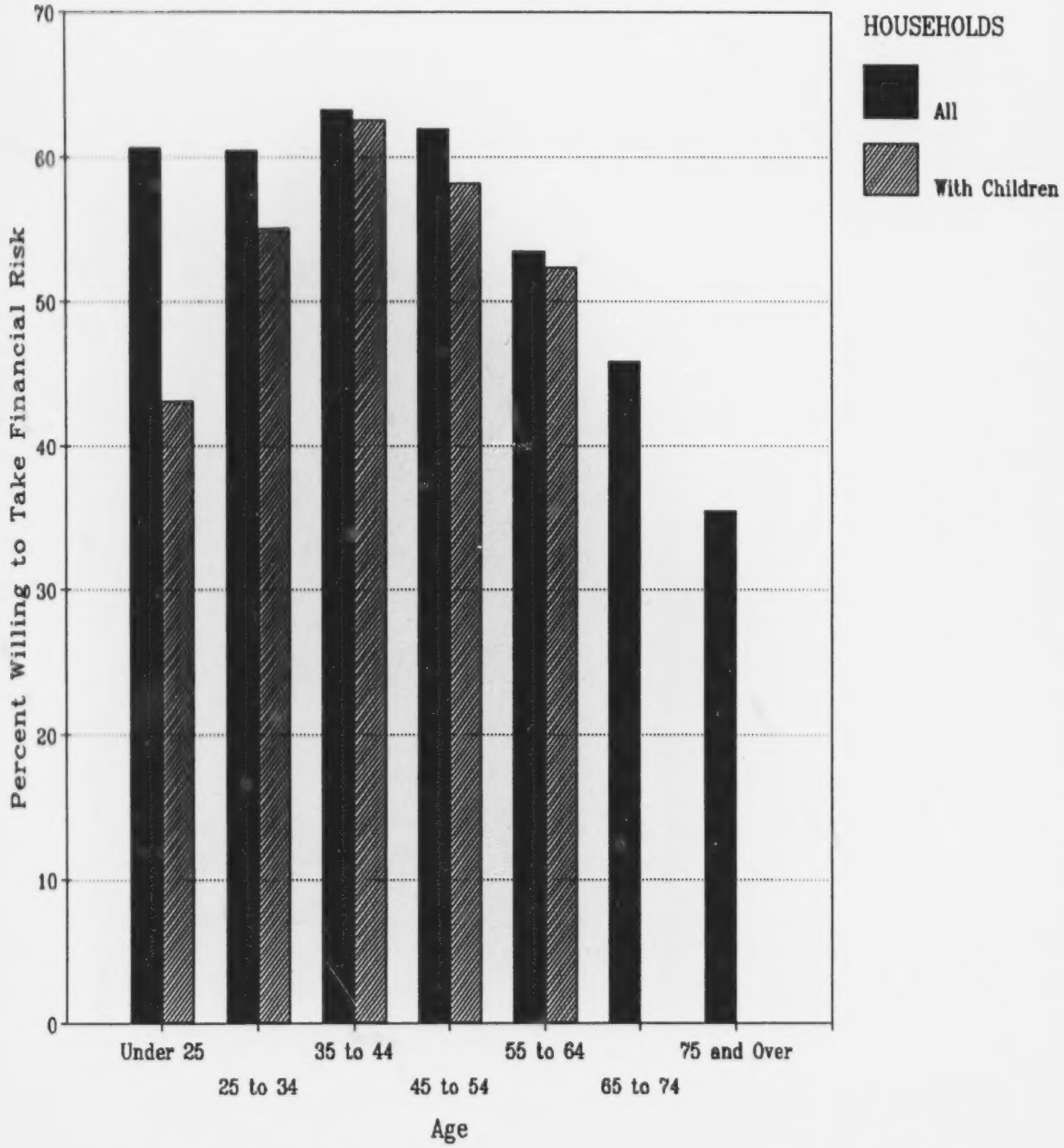
First, at no income level does savings for children's education rank as the first or second most important savings priority for more than 30 percent of the survey respondents. That is to say, for three quarters of all families with children, college savings is not among the top two savings priorities. Apparently, even among comfortable families with children, preparing for college attendance costs is not a high priority.

Second, up to $100,000 of family income, savings for children's educations actually declines as income increases. Among families with incomes of less than $7,500 per year (1983), about 15 percent cite children's education as their most important reason for saving. The figure drops to about 5 percent for families with incomes of $75,000 to $100,000.

Third, especially in families with above $30,000 in income (1983), college savings appears to grow as families' second most important reason for saving.

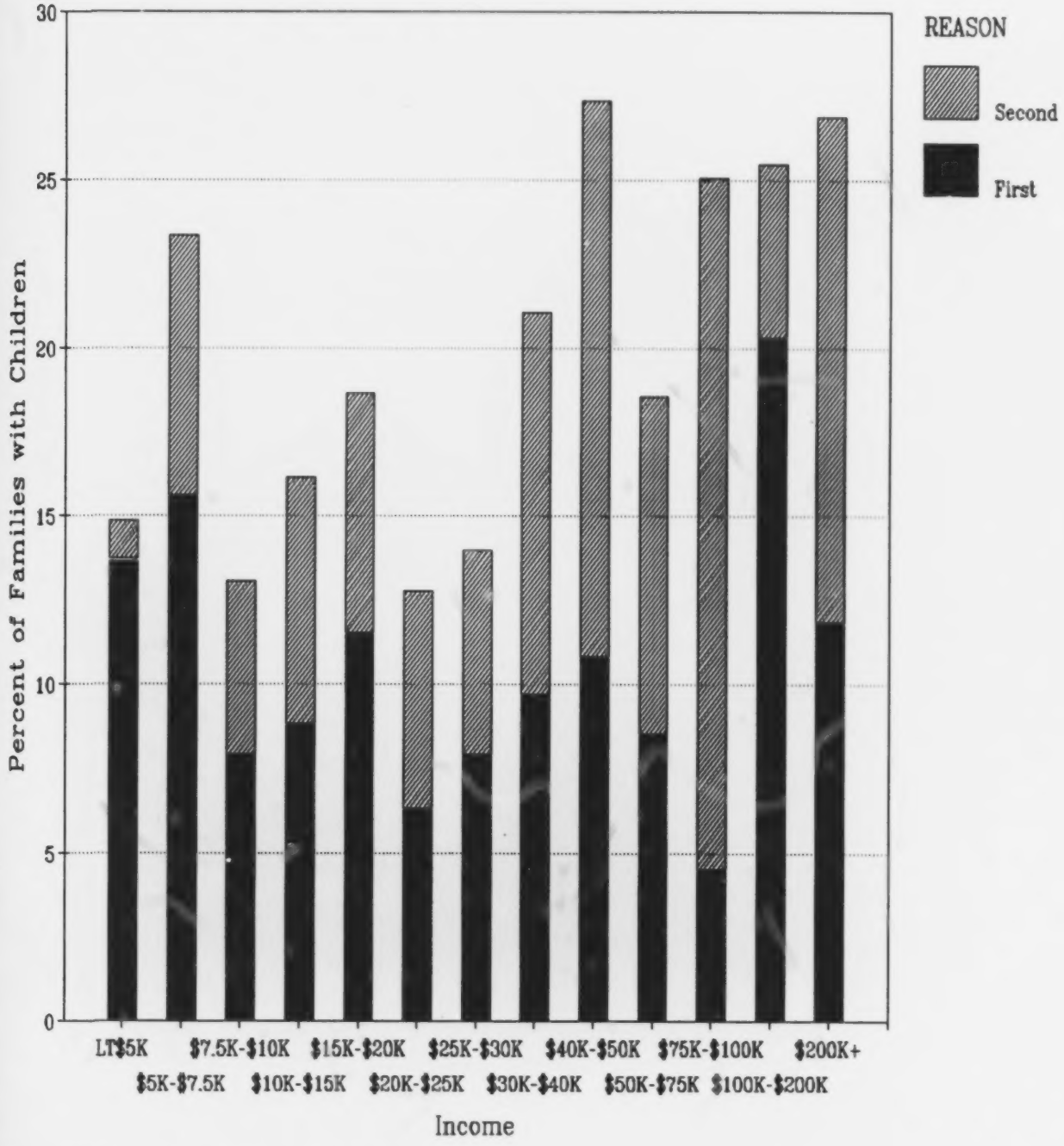
Despite the apparently recognized need for saving for college, the evidence from the Federal Reserve System survey suggests the large majority of families with children and sufficient income to be able to save do not rank college savings very highly, if at all, among family priorities.

FIGURE 27
ATTITUDE TOWARDS RISK FOR SAVINGS AND INVESTMENTS BY AGE OF HEAD OF HOUSEHOLD 1983



Survey of Consumer Finances, Federal Reserve System.

FIGURE 28
MOST IMPORTANT REASONS FOR SAVING ARE CHILDRENS' EDUCATION
BY FAMILY INCOME
1983



Source: 1983 Survey of Consumer Finances, Federal Reserve System.

V. Remaining Questions

This study does not address other public policy problems associated with the misuse of loans in student financial aid. Janet Hansen, Frank Newman, and others have voiced serious concerns about the proper role of loans in higher education. I would add a few concerns to the list.

First, I think it possible that student loans for poor people fail the benefit-cost test to which any public expenditure must be subject. If loan costs to the federal treasury are only half of the loan amounts received by students, and the default rate is nearly 50 percent for very low income borrowers, then the cost to the federal government of a dollar loaned is nearly a dollar--not the 50 percent claimed. Add to this often futile collection costs--and the huge loss of low income enrollments that results when loans are substituted for grants--and the result must be a near certain failure of the benefit-cost test applied to loans to students from low income backgrounds.

Second, while the greatest gain in cumulative loan indebtedness has been among the very lowest income students enrolled in higher education, and loans remain profitable to lenders, then clearly the source of Stafford Student Loan program profitability to lenders must be shifting from middle income borrowers to poor borrowers. Are we comfortable with this as a socially endorsed outcome of federally guaranteed aid programs?

Finally, as a part of a far broader moral question of public finance, by what right does a generation of adults educated without loans obligate their children to pay for their own education? The 1980s have created a legacy of consumption far beyond our production that was and continues to be financed by borrowing from the welfare of our children. The American tradition of investing in our children so that their lives might be better than ours may have been undermined to some extent during the 1980s. The shift in student aid from grants to loans can be interpreted as a reflection of this fundamental change in personal and public values.

End note on Public Policy Analysis

An experimental design to test the effectiveness of student loans regarding higher educational participation goals of student aid was not possible in this study. Such an approach would involve the use of human subjects in a research design involving a test of different forms of financial aid on their collegiate enrollment behavior. Because this is neither possible nor desirable, we are left to interpret the effects of human behavior by indirect means. This end note alerts the reader to the limits of public policy analysis and the special problems of invasive behavioral research in student financial aid.

Let us suppose we are interested in the effects of loans compared to grants on the collegiate enrollment behavior of otherwise eligible high school graduates. The experimental research design would involve the random selection of several samples from the population. These samples would be large enough to be able to analyze different subgroups within them: e.g. men and women, poor, middle income, and rich, whites, blacks, Hispanics, and Asians, etc. To one such sample we would give only student loans. To another we would allocate only grants. To a third we might offer no financial aid at all. To a fourth we might offer a mix of grants and loans.

After a year or two, we would return to these samples to determine for each student their collegiate enrollment behavior following receipt of the financial aid awarded. By comparing their access, choice, and persistence enrollment behavior at the end of study period, we could infer the effects each financial aid award type had on their enrollment behavior.

A research design such as that outlined above is unethical. Given the esteem we hold for human welfare, social science research is prevented from intervening in people's lives in ways that could adversely impact their well being. Because we believe in the importance of higher education to individual well being, manipulating the environments that enable or impede an individual to achieve the conditions that result from higher education for purely scientific study would be unacceptable.

Because the option of an experimental design is not available, the financial aid researcher is left to seek answers to questions regarding the effectiveness of different forms of financial aid by other means. The alternative means employed in this study avoids the intervention problem by attempting to interpret human behavior after it has occurred, and without the use of control groups. That is, at the margin of group behavior, we observe over time changes in behavior. Also, we observe differences between groups in their behaviors. Social science theory guides us in the interpretation of that behavior. Economic theory, for example, is based on the assumption that people are motivated to maximize their own welfare. They are constrained from doing so by the limited availability of resources. As a result, they are forced to make choices that will maximize their welfare within the limits imposed by available resources such as time, money, etc.

In this study, we have used the economic theory of investment to examine problems in the use of loans by students to finance their higher educations. Loans impose special costs on college attendance in ways that diminish net

benefits of college, and make alternatives to collegiate enrollment relatively more attractive to economically marginal individuals. This interpretation of marginal enrollment behavior is plausible and appropriate from the perspective of economic theory: as the net benefit of college attendance has been decreased by the substitution of loans for grants to low income students, economically marginal individuals have chosen alternatives to collegiate study.

There is both power and frailty in this analysis. The power comes from the thoroughly tested validity of microeconomic theory in seeking to explain the welfare maximizing behavior of individuals. Time and gain, under the widest of circumstances, individuals have been shown to make decisions in such a way that they will enhance their private welfare. Often the information they have available to evaluate their options is imperfect. Sometimes individuals make decisions that are altruistic. Once in a while a person makes an apparently irrational decision. But by and large, human beings can be counted on to make decisions that will maximize their own private welfare. Attending college is one of these decisions, and careful analysis of the true, full costs of attending college provides a tested, valid means of interpreting changes in college enrollment behavior of individuals over time.

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APPENDIX A
Value of a College Education Today
1989

	Number	Worth More	About Equal	Worth Less	Don't Know
Total	1253	39%	35%	22%	4%
Sex					
Male	632	49	29	19	3
Female	621	31	41	24	4
Age					
18-29	298	37	40	21	2
30-49	534	43	30	25	2
50 and over	402	37	37	19	7
Education					
College graduate	393	56	23	18	3
Some college	251	38	34	26	2
HS graduate	458	34	38	25	3
Less than HS grad	141	31	45	17	7
Race					
White	1075	42	34	20	4
Nonwhite	166	25	43	30	2
Region					
East	305	34	40	22	4
Midwest	322	40	39	19	2
South	372	42	32	23	4
West	253	39	31	23	6
Political Ideology					
Republican	421	46	33	19	2
Democrat	383	36	38	22	4
Independent	449	36	35	24	5
Income					
$50,000 or more	275	60	22	17	1
$30,000-$49,999	320	42	30	25	3
$20,000-$29,999	253	37	39	20	4
Less than $20,000	321	27	45	21	7
Religion					
Born Again Prot.	308	38	39	19	4
Other Protestant	395	40	38	17	5
Catholic	321	44	28	26	3
Jewish	33	35	29	28	9
None	54	33	33	32	1

	Number	Worth More	About Equal	Worth Less	Don't Know
Proximity to Higher Education					
Close to college	690	45	31	21	3
Not close	563	33	40	22	5
College Grade					
A/B	578	46	37	14	3
C or below	558	33	34	30	3
Children					
Under 18	510	40	33	25	3
13-17	192	41	36	22	1
None under 18	740	39	37	20	5

Source: Gallup Organization. 1989. Attitudes about American colleges. Council for Advancement and Support of Education: Washington, D. C.

Note: This table includes both published and unpublished data. CASE was kind enough to share print outs of the tabulated survey responses with the author.

APPENDIX B
Access to a College Education
1989

	Number	Everyone Has Equal Access	Race Makes It Harder	Race Makes It Easier	Don't Know
Total	1253	45%	44%	4%	7%
Sex					
Male	632	48	43	4	6
Female	621	42	46	4	8
Age					
18-29	298	45	49	2	4
30-49	534	45	46	5	4
50 and over	402	45	40	4	11
Education					
College graduate	393	48	44	6	3
Some college	251	41	50	4	5
HS graduate	458	44	46	4	7
Less than HS grad	141	47	39	1	13
Race					
White	1075	46	42	5	7
Nonwhite	166	34	59	0	7
Region					
East	305	44	46	4	6
Midwest	322	44	46	4	6
South	372	50	41	2	7
West	253	38	48	6	8
Political Ideology					
Republican	421	52	39	3	6
Democrat	383	41	48	1	10
Independent	449	42	46	7	5
Income					
$50,000 or more	275	50	41	5	4
$30,000-$49,999	320	44	45	6	5
$20,000-$29,999	253	45	45	3	7
Less than $20,000	321	44	45	2	9
Religion					
Born Again Protestant	308	46	45	3	7
Other Protestant	395	42	45	5	9
Catholic	321	49	42	4	5
Jewish	33	41	56	0	4
None	54	32	59	4	5

	Number	Everyone Has Equal Access	Race Makes It Harder	Race Makes It Easier	Don't Know
Proximity to Higher Education					
College close	690	49	42	4	5
College not close	563	41	47	3	9
Children					
Under 18	510	43	48	4	4
13-17	192	43	48	6	3
None under 18	740	46	43	3	8
Value of Education					
More than cost	530	51	42	4	4
Less than cost	262	42	49	3	6
Equal to cost	412	41	46	4	9

Source: Gallup Organization. 1989. Attitudes about American colleges. Council for Advancement and Support of Education: Washington, D. C.

Note: This table includes both published and unpublished data. CASE was kind enough to share print outs of the tabulated survey responses with the author.

APPENDIX C

Mean Total GSL Loan Debt for 1983-84 Pennsylvania Undergraduates,
By Family Incomes and Types of Institutions Last Attended

Income	4-Year Private	State Universities	State Related	Junior Colleges	Community Colleges	Nursing Schools	Proprietary Schools	Out-of-State	All Schools
None	$5,232	$4,302	$4,650	$3,080	$2,508	$4,915	$2,723	$4,433	$3,214
$1 to $5,000	5,585	5,040	5,404	3,402	2,833	4,867	2,735	4,488	3,793
$5,001 to $10,000	5,147	4,269	4,652	3,104	2,703	4,652	2,795	3,654	3,570
$10,001 to $15,000	5,232	4,363	4,552	3,306	2,703	4,372	2,902	3,918	3,787
$15,001 to $20,000	5,340	4,836	4,766	3,810	2,866	4,414	3,004	4,264	4,063
$20,001 to $25,000	5,764	5,044	5,061	3,408	2,751	4,614	3,122	4,696	4,350
$25,001 to $30,000	5,735	5,359	5,254	3,520	2,907	4,763	3,250	5,100	4,613
$30,001 to $40,000	6,142	4,873	5,281	3,715	2,629	4,493	3,281	5,627	4,867
$40,001 to $50,000	6,457	5,202	5,463	3,428	2,506	4,270	3,235	6,000	5,383
Above $50,000	6,723	4,724	5,587	3,309	2,871	4,170	3,610	6,304	5,895
Total	$5,800	$4,878	$5,102	$3,427	$2,735	$4,574	$2,424	$4,885	$4,238
Number	16,717	11,426	13,795	1,373	6,975	1,665	30,828	12,445	95,224

Source: Pennsylvania Higher Education Assistance Agency.

APPENDIX D

Mean Total GSL Loan Debt for 1988-89 Pennsylvania Undergraduates,
By Family Incomes and Types of Institutions Last Attended

Income	4-Year Private	State Universities	State Related	Junior Colleges	Community Colleges	Nursing Schools	Proprietary Schools	Out-of-State	All Schools
None	$6,399	$5,060	$4,891	$3,606	$3,270	$5,555	$2,993	$3,084	$3,950
$1 to $5,000	6,858	6,195	6,497	3,659	3,342	6,250	3,387	3,655	4,952
$5,001 to $10,000	6,615	5,456	5,843	3,804	3,250	5,144	3,797	3,900	5,057
$10,001 to $15,000	6,182	5,299	5,547	3,509	3,046	5,309	3,717	4,390	5,039
$15,001 to $20,000	6,161	5,161	5,508	3,567	3,065	5,337	3,851	4,848	5,197
$20,001 to $25,000	6,222	5,542	5,623	3,542	3,027	5,655	3,999	5,186	5,411
$25,001 to $30,000	6,330	5,748	5,507	3,585	2,977	5,520	4,124	5,416	5,493
$30,001 to $40,000	6,216	5,645	5,725	3,764	3,028	4,835	4,142	5,441	5,526
$40,001 to $50,000	6,002	5,431	5,736	3,619	3,034	5,295	4,043	5,545	5,509
Above $50,000	5,838	5,270	5,808	3,617	2,960	6,611	4,077	5,871	5,612
Total	$6,173	$5,500	$5,699	$3,636	$3,087	$5,436	$3,747	$4,644	$5,288
Number	28,633	20,247	28,230	1,577	5,791	527	8,514	20,070	113,589

Source: Pennsylvania Higher Education Assistance Agency.

APPENDIX E

November, 1985 Default Rates for Pennsylvania Undergraduate Borrowers
Whole Loans Reached Maturity in FY 1984,
By Adjusted Gross Incomes and Type of School Last Attended

Income	4-Year Private	State Universities	State Related	Junior Colleges	Community Colleges	Nursing Schools	Vo-Tech Schools	Prop. School	Out-of-State	All Schools
Unknown	4.3%	8.5%	6.1%	10.7%	13.0%	3.3%	6.3%	20.3%	6.9%	7.5%
Under $6,000	21.2%	20.4%	22.2%	41.9%	38.3%	11.1%	20.2%	54.1%	33.8%	41.5%
$6,000 to $11,999	13.1%	13.3%	14.1%	24.7%	23.7%	7.7%	13.6%	37.5%	27.7%	26.5%
$12,000 to $17,999	10.9%	7.6%	12.2%	14.8%	15.9%	3.0%	13.6%	26.7%	20.7%	18.1%
$18,000 to $23,999	6.5%	7.2%	7.4%	13.1%	11.5%	4.1%	9.5%	17.7%	16.0%	11.8%
$24,000 to $29,999	6.1%	5.0%	4.6%	4.7%	9.1%	3.3%	2.2%	11.6%	10.5%	7.9%
$30,000 to $35,999	4.7%	3.7%	3.8%	5.7%	8.3%	0.7%	4.8%	9.6%	5.4%	5.8%
$36,000 to $41,999	3.2%	4.1%	2.6%	1.6%	6.4%	4.1%	5.9%	8.3%	4.4%	4.5%
Over $42,000	1.8%	1.9%	2.9%	8.1%	9.9%	1.9%	12.5%	8.4%	3.3%	3.4%
Total	7.9%	8.6%	9.1%	18.4%	19.9%	4.6%	12.2%	34.4%	14.4%	18.3%

Source: Pennsylvania Higher Education Assistance Agency.

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